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PENICILLIN IN INFECTIONS INVOLVING THE CENTRAL NERVOUS SYSTEM AND SKULL

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During the past two years 37 patients with infections involving the central nervous system and skull have been treated with penicillin. Sixteen of these patients had meningitis; 10 had localized intracranial infections, including 5 of the meningitis patients and 5 without meningitis; and 25 had infections of the bones of the skull, of whom 9 also had central nervous system infections and 16 did not.

MENINGITIS

In the group of 16 patients with meningitis, 12 had pneumococcic meningitis, 2 had alpha hemolytic streptococcus meningitis, 1 had staphylococcic meningitis and 1 had a meningitis with a gram-negative rod believed to be Alkaligenes fecalis.

Pneumococcic Meningitis.—All these patients were acutely ill with temperatures of 104 to 105.8 F. The origins of the infections were acute middle ear and mastoid infection in 6 cases, pneumonia in 2, head injury with basal skull fracture in 3 and penetrating head wound in 1. The organisms cultured from the cerebrospinal fluid in these cases were pneumococci types 1, 3, 5, 6, 7, 9, 12 (2 cases), 13 (2 cases), 22 and 25, all penicillin susceptible. In 8 of the cases blood cultures were done and were positive.

Systemic penicillin therapy was given intramuscularly at three hour intervals to all patients except 1, who was moribund on entry and received a continuous intravenous infusion of penicillin solution. During the early acute phase of the infection daily doses of 160,000 to 400,000 units of penicillin were given systemically. Later in the course of treatment the dose in some cases was reduced progressively to 100,000 units daily. The duration of systemic penicillin therapy of the patients who survived was six to forty-four days, averaging twenty-two days, and the total amount of penicillin varied from 1,400,000 to 11,650,000 units, averaging 4,938,000 units per case. Three patients died from nine to thirty hours after treatment was begun. Sulfonamide therapy was given concurrently with penicillin in 4 cases, and antipneumococcus serum also was given in 1 of these cases. Penicillin solution 1,000 units per cubic centimeter was given intrathecally by lumbar instillation once or twice daily, the dosage varying from 5,000 to 20,000 units per day. The cerebrospinal fluid cultures of all patients who survived were sterile after twenty-four to seventy-two hours of combined systemic and intrathecal treatment with penicillin. The duration of intrathecal penicillin therapy varied from three to thirteen days, averaging five days in the patients who recovered. Apparently results with small doses (5,000 units daily) were as satisfactory as those with larger doses (10,000 to 20,000 units daily). No immediate or delayed reactions attributable to intrathecal penicillin therapy were observed, but in 3 cases the cerebrospinal fluid became viscid and jelled or clotted rapidly in a test tube after several days of intrathecal penicillin treatment.

Myringotomy operations were performed in 2 of the cases of acute otitis media, and exploratory craniotomy was done in 1 case. In 3 patients with pneumococcic meningitis definite localizing signs were observed indicating intracranial abscesses originating from acute mastoiditis. Although the surgeons declined to operate on these 3 patients because of their critical, apparently hopeless condition, all 3 recovered after prolonged penicillin therapy. It was impossible, however, to prove the existence of intracranial abscesses in these cases. In 1 patient the pneumococcic meningitis recurred several days after intrathecal penicillin treatment had been discontinued and while the patient was on a reduced dosage of systemic penicillin therapy. This recurrence was controlled with increased systemic penicillin dosage combined with sulfadiazine therapy.

The results of combined systemic and intrathecal penicillin therapy were excellent and were followed by complete recovery in 9 of the 12 cases of pneumococcic meningitis. The other 3 patients were practically moribund at the time penicillin therapy was started and died during the first day of penicillin treatment.

Streptococcic and Staphylococcic Meningitis.—Two patients with penicillin susceptible strains of alpha hemolytic streptococcus were treated with penicillin. One was a child aged 2½ years who developed meningitis following exploratory craniotomy performed for head injury. The scalp wounds were contaminated with alpha hemolytic streptococcus and Bacillus pyocyaneus and were treated with aspirations and penicillin instillations. This patient recovered completely after a prolonged course of systemic, intrathecal (lumbar) and local penicillin therapy, part of which was accompanied with sulfadiazine therapy.

The second patient was a man aged 63 who had an acute frontal sinusitis with a large extradural abscess and meningitis from which alpha hemolytic streptococcus (penicillin susceptible) was cultured. He was

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acutely ill, with a temperature of 104.8 F. at the time penicillin therapy was started. The extradural abscess and infected sinuses and bone were drained by appropriate surgical procedures. During the acute phase of his illness 300,000 units of penicillin was given daily by the intramuscular route. The dosage was gradually reduced during the remainder of the course of treatment, which required a total of 13,262,000 units of penicillin. Intrathecal (lumbar) penicillin therapy was given in doses of 8,000 units a day for seven days and 5,000 units a day for eight days. Cerebrospinal fluid cultures remained sterile after the first forty-eight hours of penicillin treatment. The patient made a very slow recovery and was left with serious mental impairment.

One patient with staphylococcic meningitis, which developed following a lumbar laminectomy, was treated with penicillin. Systemic penicillin therapy consisted of 480,000 units daily for fourteen days, 320,000 units daily for four days and 160,000 units daily for fifteen days, given intramuscularly at three hour intervals. Penicillin was given intrathecally in doses of 20,000 units a day for seven days and 10,000 units a day for four days. The patient recovered completely.

One patient developed meningitis following an operation for removal of an intracranial tumor. A gram-negative rod believed to be Alkaligenes fecalis was cultured. The organism was very susceptible to penicillin, and the spinal fluid became sterile within twenty-four hours after systemic penicillin (100,000 units a day) was started and before penicillin had been instilled intrathecally. This patient received 100,000 units of penicillin daily for twelve days systemically and 3,000 units for six days intrathecally. The meningitis was controlled completely, and the patient's death several weeks later was due to other causes.

A combination of systemic and intrathecal penicillin therapy was effective in controlling infections in 13 of 16 patients who were seriously ill with meningitis. In conjunction with systemic and intrathecal penicillin therapy in such cases it appears desirable to drain accessible septic foci by surgical methods or aspirations and treat them with penicillin locally. When such septic foci are not accessible to local drainage, greatly prolonged systemic therapy with large dosage is required to prevent the possibility of recurrence of meningitis.

LOCALIZED INTRACRANIAL INFECTIONS

Ten patients had signs indicating localized areas of intracranial infection of considerable size or extent. Five (also included in previous series) were patients with meningitis apparently associated with, or originating from, substantial localized areas of intracranial infection, and 5 were patients with intracranial infections of considerable extent which were not complicated with meningitis. The cause of the infections was mastoiditis and middle ear infections in 5 cases, frontal sinusitis in 2, postoperative in 2 and posttraumatic in 1. The organisms cultured from these patients were alpha hemolytic streptococcus in 3 cases, beta hemolytic streptococcus and nonhemolytic Staphylococcus albus in 1, hemolytic Staphylococcus albus in 1, anaerobic beta hemolytic streptococcus and hemolytic Staphylococcus aureus in 1, microaerophilic beta hemolytic streptococcus in 1 and the pneumococcus in 3 cases. The organisms were susceptible to penicillin, with the exception of one strain of alpha hemolytic streptococcus which was relatively resistant. Penicillin was given systemically in doses of 200,000 to 400,000 units daily during the acute phase of the infection in all cases. The duration of systemic treatment in these cases varied from thirty-five to one hundred and fourteen days and the total amounts of penicillin from 5,250,000 to 36,500,000 units.

Extensive operations for drainage of pus and removal of nonviable infected tissues and bone were performed on 5 patients (1 of whom had meningitis), and the wounds of 4 of these were left open and 1 was closed. All 5 received postoperative local penicillin therapy by instillations through tubes placed in the wounds at operation or by the application of dressings saturated with penicillin solution or ointment. The results were satisfactory in 2 of these patients; 1 died, 1 is still under treatment, and it appears doubtful that his result will be satisfactory if he survives; 1 recovered from his infection but was left with serious mental and neurologic disabilities. It appeared to be very difficult to control extensive intracranial infections of this type, even with large amounts of penicillin and extensive surgical drainage, in spite of the fact that the pathogenic organisms were penicillin susceptible in most cases. The reason for failure in some of these cases appeared to be associated with the necessity for eliminating or sterilizing large amounts of infected, nonviable tissues that lay in inaccessible areas or in regions that were of vital physiologic importance.

In the other 5 patients (3 of whom had meningitis) the extent of the localized area of intracranial infection apparently was considerably less. Three of these recovered completely, without surgical procedures, following greatly prolonged treatment with systemic penicillin. It is probable that it would have been advisable to obtain surgical drainage in these 3 cases, but this was not done and there was only clinical evidence of the existence of intracranial abscesses in these cases. However, the localizing signs were well defined and the surgeons declined to operate only because the general condition of these patients at the time appeared to be too poor to permit the performance of operations. Two other patients (1 of whom had meningitis and the other extensive osteomyelitis with choked disk and increased intracranial pressure) recovered following simple drainage of abscesses of the soft parts (1 by aspiration and 1 by surgical incision of the overlying skin) and prolonged systemic penicillin therapy. These relatively smaller localized areas of intracranial infection which did not involve vital intracranial structures could best be treated by a combination of surgical drainage with penicillin locally and systemically. When such small localized intracranial infections occupied inaccessible or vital areas, it appeared to be possible in some cases to eliminate them with prolonged systemic treatment with large doses of penicillin.

INFECTIONS INVOLVING THE BONES OF THE SKULL

Twenty-five patients with infections involving bones of the skull were treated with penicillin. In 9 of these patients the infection also involved the central nervous system and in the other 16 there were no indications of central nervous system infection. The cause of the infections was frontal sinusitis in 8 cases, mastoiditis in 11, hematogenous in 1, postoperative following intracranial operations in 2, posttraumatic in 1 and infected tumors in 2. The pathogenic organisms cultured from these cases were hemolytic Staphylococcus aureus in 8 cases, hemolytic Staphylococcus albus in 1, nonhemo-

lytic Staphylococcus aureus in 1, alpha hemolytic streptococcus in 2, beta hemolytic streptococcus in 2, Bacteroides fragilis in 1, alpha hemolytic streptococcus and nonhemolytic Staphylococcus albus in 1, beta hemolytic streptococcus and hemolytic Staphylococcus aureus in 3, pneumococcus in 5 and beta hemolytic streptococcus and nonhemolytic Staphylococcus aureus in 1.

All pathogenic organisms were penicillin susceptible except Bacteroides fragilis, which was susceptible in concentrations of 20 units per cubic centimeter, and one strain of hemolytic Staphylococcus aureus, which was susceptible in concentrations of 10 units per cubic centimeter. The infections were classified as acute in 21 cases and chronic in 4 cases, although several of the acute infections were acute exacerbations of chronic mastoiditis or frontal sinusitis. Prolonged systemic penicillin therapy with very large doses was given in the 9 cases of skull bone infections with central nervous system involvement, as was mentioned in connection with the treatment of meningitis and localized intracranial infections. In the treatment of 14 of the 16 patients with infections of the skull bones in which there was no central nervous system involvement, systemic penicillin therapy was given over periods of nine to forty-four days with total dosages varying from 745,000 to 8,800,000 units of penicillin; 1 patient received no systemic penicillin therapy (only local), and only 1 of the 16 (carcinoma of the scalp involving the frontal bone) required very prolonged treatment, receiving 18,300,000 units of penicillin over a period of thirteen weeks. Small abscesses were treated successfully in several patients by aspiration and local instillation of penicillin solution, and one recurrent acute mastoid abscess was treated exclusively by this method.

In the treatment of the 8 patients with osteomyelitis of frontal sinus origin the results with local penicillin therapy, alone or in combination with systemic penicillin administration, were good as far as immediate control of the local infection was concerned, but recurrences took place in all cases that were followed for some time unless radical surgical excision of granulations, infected bone and mucous membrane was carried out. Seven of these patients required radical surgical removal of infected tissues either at the time of the first treatment or subsequently because of recurrences. The other patient in this group was not followed long enough to determine whether the treatment was permanently successful.

The results with penicillin treatment in infections of mastoid origin were excellent in all 11 cases. Myringotomy was performed in 2 of these cases, aspirations of soft tissue abscesses overlying the mastoid area were done in 2 cases (1 of which was treated successfully with local penicillin therapy alone), incision for drainage of a soft tissue abscess overlying the temporoparietal bone was done in 1 case, and radical operation for drainage of soft tissues and removal of infected nonviable bone was done in 1 case.

A soft tissue abscess overlying an area of hematogenous osteomyelitis in the occipital region was treated successfully with aspirations and local instillations of penicillin over a period of ten days, following which the patient was given 100,000 units of penicillin daily systemically for a period of three weeks. The immediate result was very satisfactory. The patient has been followed for more than one year without recurrence of infection.

In the 2 patients who had infections (hemolytic Staphylococcus aureus) of the skull following intracranial operations, satisfactory healing was obtained following systemic administration of about 3,600,000 units of penicillin in each case supplemented with local penicillin therapy in 1 case. Both healed satisfactorily and have remained healed.

Two patients had osteomyelitis of the bones of the skull resulting from infected tumors. One of these was an infected dermoid tumor involving the bones of the left orbital region. The organism was a penicillin resistant hemolytic Staphylococcus aureus. The patient recovered following a prolonged illness during which three operations were performed for drainage. Apparently penicillin therapy was ineffective in this case, as the bacteriologic cultures from the wound remained positive throughout the period of twenty-nine days of penicillin therapy, during which 3,389,000 units was given. The other patient had an extensive basal cell carcinoma of the scalp with ulceration and infection, with extensive involvement of the frontal bone. The organism was a penicillin susceptible hemolytic Staphylococcus aureus. Satisfactory healing was obtained following wide surgical excision followed by skin grafting. This patient was given 18,300,000 units of penicillin over a period of thirteen weeks.

One patient had an extensive infection of the skull and brain following the development of infection at the site of an injury to the head (with a "blackjack"). The organisms were penicillin susceptible beta hemolytic Streptococcus and nonhemolytic Staphylococcus aureus. In this case several surgical procedures were performed for drainage and removal of infected tissues, and 36,500,000 units of penicillin was given systemically and 900,000 units locally over a period of one hundred and fourteen days. The patient eventually died. At autopsy there was no sign of infection in the bone or central nervous system. It was presumed that residual damage to important intracranial structures was the cause of death.

Systemic penicillin therapy proved to be valuable in the treatment of infections of the bones of the skull. Early acute infections required doses of only 100,000 to 200,000 units a day over periods of ten to twenty-one days. More advanced acute infections of the skull bones required greatly prolonged treatment extending over many weeks with larger doses of 200,000 to 400,000 units of penicillin daily. Even though a considerable number of the patients in this group were treated without the use of surgical methods, it probably is advisable to eliminate accessible localized infectious foci. In such instances the use of local penicillin therapy in conjunction with surgical drainage (by aspiration or operation) and systemic penicillin therapy offers the patient the most effective and rapid way to recovery. In patients with osteomyelitis arising from frontal sinusitis it appears that penicillin therapy alone accomplishes only temporary control of the infection and that such therapy is useful largely as an adjunct to radical surgical removal of the diseased sinuses and sclerotic infected bone. In early acute infections originating from the middle ear the results of penicillin therapy alone appear much more likely to be permanent, but well advanced acute and established chronic skull infections of mastoid origin usually require surgical procedures in conjunction with penicillin therapy.

POTASSIUM DEFICIENCY OCCURRING DURING THE TREATMENT OF DIABETIC ACIDOSIS

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It is well known that deficiency of serum potassium may result in paralysis of the voluntary muscles. The occurrence of such a state has been described, particularly in familial periodic paralysis, but also in chronic nephritis. The case presented here is thought to be of special interest because of the circumstances under which potassium deficiency occurred and because of the dramatic response to specific treatment.

REPORT OF CASE

J. W., a white girl aged 18, single, admitted to the Strong Memorial hospital on Jan. 24, 1946, had been known to be diabetic for three years, treated with 35 units of protamine zinc insulin a day. During this period her diabetes had been poorly controlled; she consulted her physician irregularly and indulged in dietary indiscretions persistently. For the five days prior to her admission she had taken no insulin. Three days before admission she developed a mild upper respiratory infection characterized by a dry cough. At 7 p. m. on the evening before admission she was noted to have slightly increased respirations. During the night she became progressively more ill and lapsed into unconsciousness several times. At 4 a. m. on January 24 coma became continuous. She entered the hospital at 10 that morning, after six hours of continuous coma. The past history was noncontributory. The family history revealed no evidence of recurrent attacks of paralysis in any known member.

On physical examination the temperature was 38.1 C., (100.6 F.), pulse rate 100, respiratory rate 50 and blood pressure 110/60. The patient, who was well developed and well nourished, was deeply comatose and could not be aroused even with painful stimuli. Respiration was exaggerated and of the Kussmaul type. The skin was hot and dry, the eyeballs were soft and there was an acetone odor to the breath. The mucous membranes were dry; the tongue was swollen and coated. The thorax was symmetrical, with bilaterally equal and adequate expansion. Percussion and auscultation of the lungs revealed no abnormalities. The examination of the heart was negative except for a soft systolic murmur at the apex. The abdomen was normal, as were the neurologic findings.

The admission laboratory examination revealed a leukocytosis of 20,000, 92 per cent of the cells being polymorphonuclear leukocytes. The red blood cell count was 4.1 million, the hemoglobin 17 Gm. The urine had a strongly positive reaction for sugar, acetone and diacetic acid; its specific gravity was 1.020, no albumin was present, and the microscopic examination was normal. The chemical examination of the blood on admission revealed sugar 400 mg. per hundred cubic centimeters, carbon dioxide combining power less than 10 volumes per cent, chlorides as NaCl 113 milliequivalents, nonprotein nitrogen 35 mg. per hundred cubic centimeters. Treatment was immediately begun in the emergency department with 50 units of crystalline insulin given subcutaneously, after which the patient was sent to a medical division, where 50 additional units of insulin was given immediately. Blankets and hot water bottles were applied, and the stomach was washed with a 2 per cent solution of sodium bicarbonate, with the removal of a small amount of dark brown, guaiac positive material. The stomach tube was left in place, and 500 cc. of sodium bicarbonate solution was allowed to remain in the stomach. A Foley retention catheter was placed in the bladder. One thousand cc. of sixth molar sodium lactate solution was given subcutaneously, and 1,000 cc. of isotonic solution of three chlorides intravenously.

Following this for the next nineteen hours the patient was treated according to the method recommended by Almy, Swift and Tolstoi [1] whereby approximately 500 to 750 cc. of 5 per cent glucose in isotonic solution of three chlorides was administered intravenously each hour and 25 units of crystalline insulin was given subcutaneously each half hour. Additional fluid was given by stomach tube and, when the patient became conscious, by mouth. After four hours of such treatment the patient became conscious but remained drowsy. Orange juice and water were given by mouth, but most of the orange juice was vomited, although the water was in large part retained. At this time approximately 6,000 cc. of fluid had been administered. The blood carbon dioxide combining power was 16 volumes per cent and the urine still showed a strongly positive reaction for sugar, acetone and diacetic acid. A roentgenogram of the chest made at this time was reported as showing normal lungs, with the heart somewhat smaller than was to be expected (cardiothoracic ratio 0.39). After nine hours of treatment the carbon dioxide combining power was 26 volumes per cent and the patient appeared much improved. The urine showed a strongly positive reaction for sugar and acetone, but the diacetic acid reaction had been negative two hours. After twelve and one half hours of treatment, at midnight, it was first observed that the patient complained of some respiratory distress and appeared restless. At 1:30 a. m. on January 25, after fourteen hours of treatment, the acetone reaction in the urine became negative, and the rate of glucose and insulin administration was accordingly reduced. The patient continued to show increasing respiratory difficulty, although the heart and lungs were normal on examination, and there was no evidence of peripheral or sacral edema.

At 8:30 on the morning of January 25, twenty-one hours after initiation of treatment, respiratory distress was extreme. The breathing was rapid and shallow. All the accessory muscles of respiration were used, with retraction of the head and neck and dilatation of the alae nasi with each respiration. The chest expansion was poor, with only slight motion in the upper part of the chest. The diaphragms did not appear to move at all. The lungs were normal on auscultation except for diminished breath sounds, particularly at the right base. The extremities could be moved, but muscle power was poor. The neurologic examination was otherwise normal. The palate retracted in the midline, the voice was normal, deglutition was performed without difficulty. The patient appeared to be at the point of death from paralysis of the muscles of respiration and was placed in a Drinker respirator, to which she quickly became accustomed. The chemical examination of the blood at this time revealed sugar 221 mg. per hundred cubic centimeters, carbon dioxide combining power 50 volumes per cent, chlorides 106 milliequivalents per liter. The urine showed a strongly positive reaction for sugar but no acetone or diacetic acid. During the subsequent two and one half hours the respirator was opened several times for nursing care, and on each occasion the patient experienced severe respiratory distress. After she had been in the respirator three hours it was decided that the respiratory paralysis might be the result of potassium deficiency. Accordingly a blood sample was drawn for determination of potassium. The potassium of the serum was subsequently reported as 2.5 milliequivalents or 9.8 mg. per hundred cubic centimeters. The patient was given 1.5 Gm. of potassium chloride in a 2 per cent solution in distilled water intravenously before the analytic result was reported.

Considerable difficulty was experienced in opening the respirator long enough to assemble the infusion apparatus and insert the needle, and artificial respiration had to be resumed several times during the procedure in order to relieve the patient. The potassium chloride solution was given slowly over a thirty-five minute period, and twenty minutes after the end

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Drs. Samuel H. Bassett and Wallace O. Fenn gave advice in treating the patient and in the preparation of the manuscript. Miss Joanna Mackay of the Department of Physiology made the potassium determinations.

1. Almy, T. P.; Swift, K., and Tolstoi, E.: Treatment of Diabetic Acidosis and Diabetic Coma, J. A. M. A. **129**: 863 (Nov. 24) 1945.

of the injection the respirator was again opened. At this time the patient was seen to be dramatically improved. Her breathing was normal, and there was full expansion of the chest muscles and good diaphragmatic excursion. A second blood sample drawn at this time for serum potassium determination was subsequently found to be hemolyzed and unsuitable for analysis. Toward the end of the next half hour there was a recurrence of respiratory distress, with a tendency to use the accessory muscles. Accordingly a subcutaneous infusion of 200 cc. of a 2 per cent solution of potassium chloride mixed with an equal amount of isotonic solution of sodium chloride was started and artificial respiration again instituted. At the same time 2 Gm. of potassium citrate was given by mouth, followed by 1 Gm. at hourly intervals for two subsequent doses. The infusion was completed at the end of two hours, and the respirator was again stopped.

At this time the patient gave no evidence of respiratory distress, nor was there any evidence of respiratory difficulty during the remaining two weeks in the hospital. An electrocardiogram was made before the administration of potassium chloride and a second four hours later, after the administration of a total of 8.7 Gm. of potassium chloride. The first electrocardiogram (fig. 1) showed a rate of 148, PR interval of 0.16, QRS time 0.04, P_2 and P_3 inverted, QRS_3 slurred. ST_{123} were depressed and sagging, T_{123} were low. After the administration of potassium (fig. 2) the electrocardiogram showed a rate of 100, PR interval of 0.16, QRS time 0.04. P_3 was flat, T_{12} were flat, T_3 was inverted. Compared with the first tracing there had been definite return of the ST segments toward the normal isoelectric level. A serum potassium reading taken on Jan. 30, 1946 when the diabetes was near complete control, was reported as 5.07 milliequivalents, or 19.7 mg. per hundred cubic centimeters. An electrocardiogram taken at the same time (fig. 3) showed upright T waves in leads 1 and 2. The ST segments were at the isoelectric line. An accompanying table gives an outline of the clinical status, treatment received, blood chemical examinations and urinary findings.

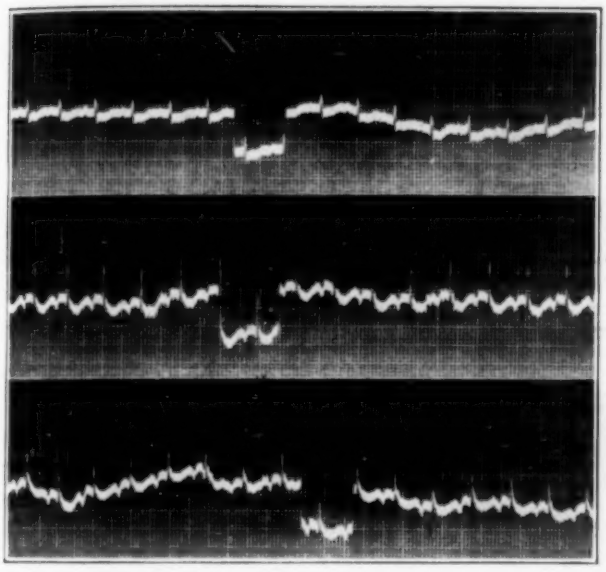

Fig. 1.—Tracing made before the administration of potassium chloride.

COMMENT

There has recently been an increased interest in clinical instances of muscular paralysis resulting from potassium deficiency. It has long been recognized that periodic familial paralysis responds to potassium therapy and that the potassium of the blood serum during an attack is low.[2] The concentration of serum potassium during attacks has been variously reported as 3.73, 2.6 and 2.1 milliequivalents. Recently Brown, Currens and Marchand [3] reported 3 cases of muscular paralysis occurring spontaneously during chronic nephritis. In 2 of the cases the serum potassium was measured as 2 and 2.5 milliequivalents. In these cases paralysis responded to the administration of potassium salts. It is of interest that Finch and Marchand [4] have reported the opposite situation, in which paralysis was attributed to an increased amount of serum potassium in chronic nephritis. It has been suggested by Fenn [5] that the site of action of potassium in neuromuscular impulse transmission is at the neuromuscular junction or synapse.

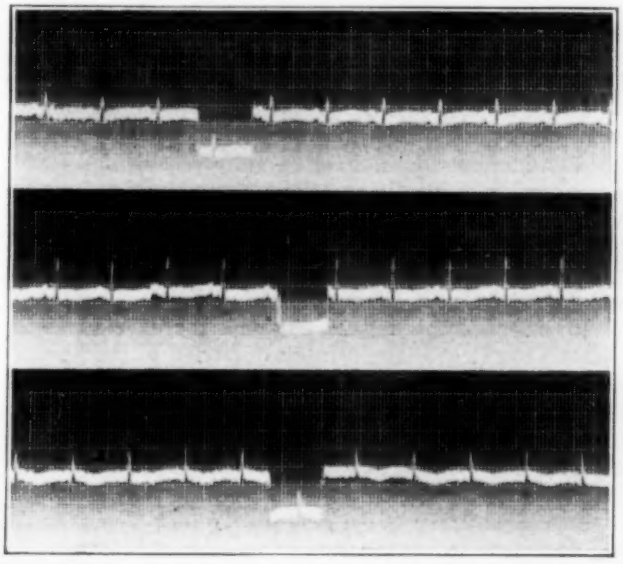

Fig. 2.—Appearance after the administration of 8.5 Gm. of potassium chloride.

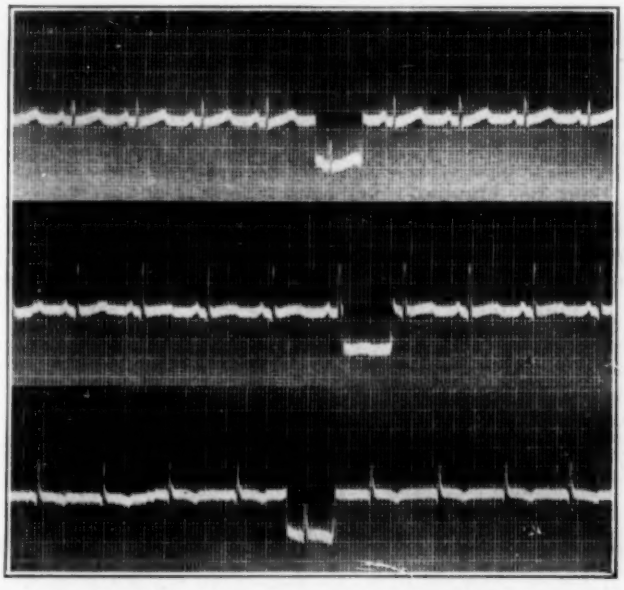

Fig. 3.—Condition on Jan. 30, 1946, five days after the episode of respiratory distress.

2. Gammon, G. D.; Austin, J. H.; Blithe, M. D., and Reid, C. G.: The Relation of Potassium to Periodic Family Paralysis, Am. J. M. Sc. **197**: 326, 1939. Aitken, Allott, Castleden and Walker.[10]

3. Brown, M. R.; Currens, J. H., and Marchand, J. F.: Muscular Paralysis and Electrocardiographic Abnormalities Resulting from Potassium Loss in Chronic Nephritis, J. A. M. A. **124**: 545 (Feb. 26) 1944.

4. Finch, C. A., and Marchand, J. F.: Cardiac Arrest by the Action of Potassium, Am. J. M. Sc. **206**: 507, 1943.

5. Fenn, W. O.: The Role of Potassium in Physiological Processes, Physiol. Rev. **20**: 377, 1940.

The exact pathogenesis of potassium deficiency in the case described here is not entirely clear. It appears, however, that there were present several factors which might promote a deficiency in serum potassium. It has been shown that dehydration or diuresis may result in increased loss of potassium in the urine.[6] This loss is thought to accompany the loss of intracellular water. Atchley and his associates,[7] in 2 carefully studied diabetic patients, noted that during a period of insulin withdrawal there was a sharp rise in the urinary excretion of potassium. This loss of inorganic base accompanied an increased loss of water and glycosuria. With the restoration of insulin and fluids there was an abrupt reversal of the process, with retention of potassium as well as of sodium and water. It was demonstrated that this loss of inorganic base in the urine accompanied glycosuria and that it did not depend on the development of ketosis for its appearance, although the development of ketosis augmented the urinary excretion of inorganic base.

In studies on depancreatized dogs to which anterior pituitary extract was administered, Foglia and his associates [8] demonstrated a well defined decrease of the serum potassium to 11.3 mg. per hundred cubic centimeters as compared with normal dogs, whose levels were 18.9 mg. per hundred cubic centimeters.

It has been shown by Fenn [9] that the deposition of glycogen in the rat liver is accompanied by the deposition of potassium. Further, it is known that the serum potassium in cases of familial periodic paralysis can be sufficiently decreased by the administration of insulin to precipitate an attack.[10] Indeed, Briggs and his associates [11] and later Kerr [12] were able to demonstrate a consistent decrease in the plasma potassium of normal dogs after the injection of insulin. It is of considerable interest that, shortly after the discovery of insulin, Harrop and Benedict [13] reported that a well defined reduction of plasma potassium occurred in diabetes after the administration of insulin. In 2 of the cases reported very low levels of plasma potassium were found (9.7 and 8.5 mg. per hundred cubic centimeters). The patient with the former level had had a low potassium level (14.3 mg. per hundred cubic centimeters) before the administration of insulin, and this patient subsequently died. No mention of muscular paralysis is made in either of these cases. In the cases studied by Atchley and his associates [7] the serum potassium values were reported to be within normal range, but it should be pointed out that these values were obtained several days after the administration of insulin was resumed, at which time normal values might have been expected.

Harrop and Benedict [14] later repored that a definite decrease in serum potassium occurred coincident with the fall in blood sugar following the administration of insulin to diabetic patients in coma and to normal dogs and rabbits.

It appears, therefore, that several factors which might have been expected to reduce the serum potassium were in operation in the case described here. The diabetes had been poorly controlled for a long period, and the patient had been entirely without insulin for five days prior to admission to the hospital. With the diuresis and dehydration that occurred during this rather extended period it is probable that a considerable loss of intracellular potassium may have occurred. It will be seen from the table that during the period of treatment a further large diuresis occurred (15,325 cc. in twenty-four hours), which in all probability carried out more potassium. The treatment given was characterized by the administration of large amounts of glucose and insulin, which would have favored the shift of potassium from the extracellular to the intracellular spaces, since the cells, depleted of potassium by the long pretreatment period of acidosis and by the diuresis during treatment, would avidly accept potassium from the extracellular fluid when conditions favoring this transition were instituted. In keeping with this reasoning it might be assumed that some depletion of serum potassium would occur regularly during the treatment of diabetic acidosis, and, indeed, the work of Harrop and Benedict [15] would appear to support this view. I

Clinical Status, Treatment and Laboratory Findings

			Blood Chemistry			Urine					
Time	Date	Clinical Status	CO_2, Volumes per Cent	Sugar, Mg. per 100 Cc.	Chlorides, m.Eq.	Sugar	Acetone	Diacetic Acid	Insulin Units	Intake, Cc.	Output, Cc.
11:30 a.m. to 3:30 p.m.	1/24/46	Coma	Under 10	400	113	++++	++++	++++	250	6,250	3,200
3:30 p.m. to 6:30 p.m.	1/24/46	Conscious	16-26	—	—	++++	++++	++++	150	2,500	2,750
6:30 p.m. to 1:30 a.m.	1/25/46	Conscious	—	—	—	++++	++++	Negative	350	4,750	6,450
1:30 a.m. to 8:30 a.m.	1/25/46	Beginning respiratory difficulty	—	—	—	++++	Negative	Negative	50	2,650	2,900
8:30 a.m. to 11:30 a.m.	1/25/46	Severe respiratory difficulty	50	221	100	++++	Negative	Negative	—	1,600	25
						Total			800	17,750	15,325

Of the total fluid administered, 11,000 cc. was given intravenously (1,000 cc. of isotonic solution of three chlorides, 1,000 cc. of isotonic solution of sodium chloride and 9,000 cc. of 5 per cent glucose in isotonic solution of three chlorides [sodium chloride, potassium chloride and calcium chloride]; 2,000 cc. was subcutaneous (1,000 cc. of isotonic solution of sodium chloride, 1,000 cc. of sixth molar sodium lactate) and 4,750 cc. by mouth.

6. Elkington, J. R., and Winkler, A. W.: Transfers of Intracellular Potassium in Experimental Dehydration, J. Clin. Investigation **23**: 93, 1944. Wiley, F. H., and Wiley, L. L.: The Inorganic Salt Balance During Dehydration and Recovery, J. Biol. Chem. **101**: 83, 1933.

7. Atchley, D. W.; Loeb, R. F.; Richards, D. W., Jr.; Benedict, E. M., and Driscoll, M. E.: On Diabetic Acidosis: A Detailed Study of Electrolyte Balances Following the Withdrawal and Reestablishment of Insulin Therapy, J. Clin. Investigation **12**: 297, 1933.

8. Foglia, V. G.; Gerschman, R.; Marenzi, A. D.; Munoz, J. M., and Rietti, C. T.: L'aggravation du diabète pancréatique par l'extrait antéro-hypophysaire, Compt. rend. Soc. de biol. **126**: 152, 1937.

9. Fenn, W. O.: The Deposition of Potassium and Phosphate with Glycogen in Rat Livers, J. Biol. Chem. **128**: 297, 1939.

10. Aitken, R. S.; Allott, E. N.; Castleden, L. I. M., and Walker, M.: Observations on a Case of Familial Periodic Paralysis, Clin. Sc. **3**: 47, 1937.

11. Briggs, A. P.; Koechig, I.; Doisy, E. A., and Weber, C. J.: Some Changes in the Composition of Blood Due to the Injection of Insulin, J. Biol. Chem. **58**: 721, 1923-1924.

12. Kerr, S. E.: The Effect of Insulin and of Pancreatectomy on the Distribution of Phosphorus and Potassium in the Blood, J. Biol. Chem. **78**: 35, 1928.

13. Harrop, G. A., Jr., and Benedict, E. M.: The Participation of Inorganic Substances in Carbohydrate Metabolism, J. Biol. Chem. **59**: 683, 1924.

14. Harrop, G. A., Jr., and Benedict, E. M.: The Role of Phosphate and Potassium in Carbohydrate Metabolism Following Insulin Administration, Proc. Soc. Exper. Biol. & Med. **20**: 430, 1922-1923.

15. Harrop and Benedict, footnotes 13 and 14.

believe that the complication here reported is infrequent, since conditions were present in this patient which produced an unusually low level of serum potassium; that is, the prolonged period of acidosis, the large diuresis occurring during treatment, and the administration of large amounts of glucose and insulin, which favored the rapid storage of glycogen in the liver.

It is worth while to call attention at this point to the fact that, despite the large amounts of fluid administered, we were unsuccessful in hydrating the patient. Although 17,750 cc. of fluid was given, renal excretion accounted for 15,325 cc. and excretion by skin and lungs for approximately 1,500 cc. Root,[16] in a letter criticizing the use of glucose in the treatment of diabetic acidosis, cites a record from the Massachusetts General Hospital [17] describing an instance of death occurring in diabetic acidosis treated with glucose. The period just prior to death was characterized by "peculiar, gasping respirations." One can only speculate whether a potassium deficiency might have been the factor responsible for the respiratory difficulties observed in this patient.

It would seem that there can be little doubt that a potassium deficiency was responsible for the symptoms described in our patient, since the low level of potassium obtained by analysis of the serum (2.5 milliequivalents), the dramatic response to potassium therapy and the changes in the electrocardiogram all support this hypothesis. It might be supposed that this patient presented a peculiar abnormality of potassium metabolism akin to that occurring in familial periodic paralysis which predisposed her to the development of this complication. There is, however, nothing in the family history to support this view.

I believe it is of considerable importance to keep in mind the possibility of this complication in the treatment of diabetic acidosis when treatment is characterized by the administration of large amounts of glucose, insulin and fluid, since these are circumstances which favor the rapid deposition of liver glycogen and the establishment of a diuresis. Both glycogenesis and diuresis have been shown to remove potassium from the serum. In the case described here, the level of serum potassium was reduced to a degree endangering life.

16. Root, H.: The Use of Glucose in the Treatment of Diabetic Coma, J. Clin. Endocrinol. **5**: 353, 1945.
17. Cabot Case 30451, New England J. Med. **231**: 657, 1944.

Choosing a Career in Medicine.—But to return to free choice. Has the doctor got it at the moment? Only to a degree, but he has freedom of thought and of action, and as a young man he began his career with the knowledge that he was entering a "noble" profession, where, if he succeeded he would attain respect, much love and, like gardening, a certain respect and satisfaction from seeing results commensurate with his efforts. The essence of the argument is that the young man or woman believes this and deliberately chooses a career in medicine. There may be some who become doctors, as others become blacksmiths, because there is nothing essentially difficult about acquiring a medical qualification, and these, who at present are in the minority, make a living by jogging along. Some even go into Parliament. And if we have a State service, in which the vista of professional progress may be measured in terms of seniority, the medical "jogger" and the expert "jobber," the men without ideals, will become a majority, and we shall have a discredited profession and a disillusioned public.—Hill, R. C. J.: An Answer to the Socialist Case, *Brit. M. J.* **1**:60 (March 16) 1946.

METHODS OF LOCAL THERAPY FOR TINEA CAPITIS DUE TO MICROSPORON AUDOUINI

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The increase in recent years in the incidence of tinea capitis due to Microsporon audouini in the United States and Canada has more sharply focused our attention on the need for a method of local therapy effective against that organism.[1] Epilating doses of low voltage roentgen irradiation (Kienböch-Adamson technic) [2] is the treatment of choice in the management of tinea capitis caused by fungi not usually transferable to animals (i. e. that due to M. audouini, Trichophyton violaceum and Achorion schoenleinii—the "human" types). On the other hand, ringworm of the scalp due to fungi which are also pathogenic to animals (i. e. Microsporon lanosum, Microsporon fulvum and Trichophyton gypseum—the "animal" types) has presented no unusual therapeutic problem because of the rapid response of these fungi to almost any method of antiseptic or fungicidal local therapy plus their tendency to run a self-limited course.

Thallium salts administered orally have enjoyed some popularity, but their tendency toward toxic and even fatal complications explains why they are not more widely used as a method of causing epilation of the scalp.[2]

The use of estrogens orally [3] has met with some success in the treatment of tinea capitis due to M. audouini based on the well known fact that most cases tend to heal spontaneously with the onset of puberty. Because of the possibility of the development of precocious puberty resulting from this procedure, however, it has not been generally employed.

In view of the epidemic proportions which tinea capitis due to M. audouini has attained in several metropolitan centers, it is not practical to attempt x-ray epilation in such a large number of cases. There are neither the facilities nor enough qualified personnel available for successful execution of such a tremendous task. There remains, therefore, the need for some method of local treatment against this type of tinea capitis which will not irritate or sensitize the scalp and at the same time will be fungicidal or at least fungistatic against M. audouini. It was with this object in mind that the studies presented in this paper were carried out.

One method of approach was the use of a copper compound, copper oleate. The antiseptic and fungicidal actions of copper are well known, and the oleate of copper was used in the treatment of tinea capitis as early as 1899 by Corlett.[4]

Still more encouraging in recent years has been the development of some of the fatty acids and their salts

From the Department of Dermatology and Syphilology, service of Dr. Loren W. Shaffer, professor, Wayne University College of Medicine, and City of Detroit Receiving Hospital. Material for this paper is taken from a thesis prepared in partial fulfilment of the requirements leading to the degree of Master of Science in Dermatology and Syphilology.

1. Carrick, L.: The Epidemiology of Tinea Capitis in Detroit School Children, J. Michigan M. Soc. **45**: 347 (March) 1946.
2. MacKee, G. M.: X-Rays and Radium in the Treatment of Diseases of the Skin, ed. 3, Philadelphia, Lea & Febiger, 1938.
3. Poth, D. O., and Kaliski, S. R.: Estrogen Therapy of Tinea Capitis, Arch. Dermat. & Syph. **45**: 121 (Jan.) 1942.
4. Corlett, W. T.: Recent Researches in Ringworm, J. A. M. A. **32**: 589 (March 11) 1899.

as fungicidal and fungistatic agents. First the baking [5] and the dairy industries [6] developed the use of the fatty acids, particularly the sodium and calcium salts of propionic acid, as inhibitors of molds. Then the papers of Peck and Rosenfeld,[7] Peck, Rosenfeld, Leifer and Bierman,[8] Keeney and Broyles,[9] Keeney, Ajello and Lankford,[10] Keeney, Ajello, Broyles and Lankford [11] and Shapiro and Rothman [12] appeared establishing the value of some of the fatty acids and their salts in the treatment of cutaneous mycotic infections.

TABLE 1.—*Ointments Tested in Local Therapy for Tinea Capitis*

Copper oleate ointment (p_H 8.00)	
A. Copper oleate	15%
B. Medicinal soft soap	20%
C. Lamepon *	5%
D. Petrolatum to make	100%
Melt and mix B and D; heat and melt A and add to B and D; to the preceding add C	
Propionate-propionic acid ointment † (p_H 7.02)	
Aerosol ‡	0.1%
Sodium propionate	16.4%
Propionic acid	3.6%
Zinc propionate	5.0%
n-Propyl alcohol	10.0%
Water soluble base to make	100.0%
Undecylenate-undecylenic acid ointment § (p_H 6.90)	
Undecylenic acid	5.00%
Triethanolamine—technical	1.75%
Zinc undecylenate	20.00%
Sodium tetradecyl sulfate	3.00%
Anhydrous carbowax base to make	100.00%

* Solumol Company, Detroit.
† Supplied for clinical trial by Wyeth, Incorporated, Philadelphia.
‡ American Cyanamid & Chemical Corp., New York.
§ Supplied for clinical trial by Wallace & Tiernan Products, Inc., Belleville, N. J.

The present study has to do with the laboratory and clinical evaluation of copper oleate and two fatty acid preparations in the local treatment of tinea capitis due to M. audouini.

METHODS AND MATERIALS

The preparations given in table 1 were tested in vitro and in vivo. The p_H of each ointment was determined with a Leeds and Northrup Glass Electrode p_H Meter. The glass electrode was placed directly into a cup of the ointment being tested.

It should be noted that wetting agents (Lamepon, Aerosol and sodium tetradecyl sulfate) were incorporated into the preparations tested to enhance penetration of the ointments along the hair shafts and down into the hair follicles.

IN VITRO STUDIES

A. *Fungistatic Experiments.*—The agar cup-plate technic described by Ruehle and Brewer [13] was employed, with slight modifications, to determine the fungistatic effects of the three ointments.

Because of the difficulty in obtaining spores from a culture of M. audouini, the following method of preparing a suspension of spores of this organism was used:

Infected hairs which fluoresced under the Wood light were extracted with sterile forceps from the freshly shampooed scalp of a patient with tinea capitis which had had no previous treatment and which was uncomplicated by kerion or secondary infection. As many such hairs as could be obtained from 1 patient were placed in a sterile, rubber stoppered test tube containing 3 cc. of sterile isotonic solution of sodium chloride. The tube was then shaken for five minutes, and a few drops of the spore suspension were plated on Sabouraud's maltose agar medium. If the resulting culture proved to be M. audouini and was free from contaminants the suspension was stored in the refrigerator for future use. To my knowledge there is no published report describing this technic of preparing a spore suspension of M. audouini directly from infected hairs.

The spore count was made by employing the technic and apparatus customarily used for the enumeration of red blood corpuscles. The spore suspension was then adjusted with isotonic solution of sodium chloride so that each cubic centimeter of the suspension contained approximately 1,000,000 spores.

Sabouraud's maltose agar was melted and allowed to cool to 40 C. (104 F.). To each 25 cc. of agar were added 1,000,000 spores (1 cc. of the suspension shaken for five minutes) of M. audouini. The inoculated agar was then poured into a sterile Petri dish and allowed to solidify. Then a hole 1 cm. in diameter was cut in the center of the agar plate with a sterile cork-borer. The bottom of the cup was sealed with 0.1 cc. of agar and the ointment to be tested was packed into the cup with a sterile spatula. The plates were incubated at 30 C. (86 F.) for one hundred and twenty hours and then read for inhibition of growth. If a zone of inhibition occurred about the cup the diameter of the zone was measured and recorded. For each ointment tested a corresponding control ointment was tested from which the active ingredients (copper oleate, propionate-propionic acid and undecylenate-undecylenic acid) were omitted.

TABLE 2.—*Fungistatic Effects of Various Ointments in Vitro by the Agar Cup-Plate Technic*

Ointment	p_H	Zone of Inhibition for M. Audouini after 120 Hrs.
Copper oleate	8.00	6.5 cm. diam.
Copper oleate control	7.45	4.5 cm. diam.
Undecylenate-undecylenic acid	6.90	9.0 cm. diam. (no growth)
Undecylenate-undecylenic acid control	8.40	5.0 cm. diam.
Propionate-propionic acid	7.02	9.0 cm. diam. (no growth)
Propionate-propionic acid control	6.80	0.0 cm. diam. (complete growth)

Results.—It will be seen from table 2 that the copper oleate ointment was the least effective of the three ointments tested in the inhibition of growth of M.

5. Hoffman, C.; Schweitzer, T. R., and Dalby, G.: Fungistatic Properties of the Fatty Acids and Possible Biochemical Significance, Food Research **4**: 539, 1939.
6. Miller, F. W.: Retarding Mold in Cheese, Nat. Butter & Cheese J. **8**: 31, 1940. Irvine, O. R., and Spraule, W. H.: Mold Inhibitors for Cheese, Canad. Dairy & Ice Cream J. **19**: 19, 1940. Ingle, J. D.: Some Preliminary Observations on the Effectiveness of Propionates as Mold Inhibitors on Dairy Products, J. Dairy Research **23**: 509, 1940. Macy, H., and Olson, J. C.: Preliminary Observations on the Treatment of Parchment Paper with Sodium or Calcium Propionate, J. Dairy Sc. **22**: 527, 1939.
7. Peck, S. M., and Rosenfeld, H.: The Effect of Hydrogen Ion Concentration, Fatty Acids and Vitamin C on the Growth of Fungi, J. Invest. Dermat. **1**: 237, 1938.
8. Peck, S. M.; Rosenfeld, H.; Leifer, W., and Bierman, W.: Role of Sweat as a Fungicide, with Special Reference to the Use of the Constituents of Sweat in the Therapy of Fungous Infections, Arch. Dermat. & Syph. **39**: 126 (Jan.) 1939.
9. Keeney, E. L., and Broyles, E. N.: Sodium Propionate in the Treatment of Superficial Fungous Infections, Bull. Johns Hopkins Hosp. **73**: 479, 1943.
10. Keeney, E. L.; Ajello, L., and Lankford, E.: Studies on Common Pathogenic Fungi and on Actinomyces Bovis: I. In Vitro Effect of Fatty Acids, Bull. Johns Hopkins Hosp. **75**: 377, 1944.
11. Keeney, E. L.; Ajello, L.; Broyles, E. N., and Lankford, E.: Propionate and Undecylenate Ointments in the Treatment of Tinea Pedis and an In Vitro Comparison of Their Fungistatic and Antibacterial Effects with Other Ointments, ibid. **75**: 417, 1944.
12. Shapiro, A. L., and Rothman, S.: Undecylenic Acid in the Treatment of Dermatomycosis, Arch. Dermat. & Syph. **52**: 166 (Sept.) 1945.
13. Ruehle, G. L. A., and Brewer, C. M.: United States Food and Drug Administration Method of Testing Antiseptics and Disinfectants, Circular 198, U. S. Department of Agriculture.

audouini in vitro. The undecylenate-undecylenic acid and propionate-propionic acid ointments were equally effective inhibitors of M. audouini growth in vitro. The undecylenate-undecylenic acid control ointment allowed partial growth of the fungus, while the propionate-propionic acid control had no fungistatic properties at all.

B. *Fungicidal Experiments.*—It was felt that the best way to appraise the fungicidal properties of an ointment was to attempt to duplicate, as closely as possible, conditions as they exist in the scalp where the ointment is in contact with the infected hair. Therefore it was decided to embed hairs infected with spores of M. audouini from freshly shampooed untreated cases in each of the test ointments and in their control ointments for varying periods of time (one, four and six days) at room temperature. Then these hairs were washed free of ointment with sterile water, plated on Sabouraud's maltose agar and incubated at 30 C. (86 F.). If no growth of Microsporon audouini occurred by the end of four weeks it was assumed that the ointment was fungicidal. The experiments were repeated more than once in order to allow for errors in technic, and the constant results are presented in table 3.

TABLE 3.—*Fungicidal Effects of Various Ointments in Vitro by Direct Contact with Hairs Infected with M. Audouini*

Ointment	*pH*	Length of Time Infected Hairs Were in Contact with Ointment		
		24 Hrs.	96 Hrs.	144 Hrs.
Copper oleate	8.00	+	+	+
Copper oleate control	7.45	+	+	+
Undecylenate-undecylenic acid	6.90	0	0	0
Undecylenate-undecylenic acid control	8.40	+	+	+
Propionate-propionic acid	7.02	0	0	0
Propionate-propionic acid control	6.80	0	0	0

+, growth of M. audouini occurred on agar (nonfungicidal).
0, no growth of M. audouini occurred on agar in four weeks (fungicidal).

Results.—Table 3 illustrates the complete absence of fungicidal properties of the copper oleate ointment in vitro. The undecylenate-undecylenic acid ointment was fungicidal against the spores of the fungus for all the time intervals of exposure between the ointment and infected hairs (twenty-four, ninety-six and one hundred and forty-four hours), while its control ointment had no fungicidal properties. It is interesting that both the propionate-propionic acid ointment and its control showed fungicidal action for all the periods of contact with infected hairs. It is difficult to explain the fungicidal activity of the control preparation. One would expect it to be fungistatic as well, but the fungistatic experiments (table 2) do not bear this out.

IN VIVO STUDIES

A. *Epidemiology.*—Between October 1944 and March 1946, 171 cases of tinea capitis were diagnosed under the Wood light [14] in the dermatology outpatient clinic at the City of Detroit Receiving Hospital. Of this number 169 (98.8 per cent) were due to M. audouini, and in 2 cases (1.2 per cent) M. lanosum was the causative organism. Of the M. audouini cases, only 3 (1.8 per cent) were complicated by secondary infection or kerion.

14. The Wood light, invented by Robert William Wood, an American physicist, is an ultraviolet light whose rays are passed through a special filter composed mainly of nickel oxide. The best glass, according to Radley and Grant (Fluorescence Analysis in Ultraviolet Light, New York, D. Van Nostrand Company, Inc., 1933), contains 9 per cent of nickel oxide together with silica, barium oxide, potassium oxide and copper oxide. When a source of ultraviolet light is screened with this glass, all the visible rays are absorbed while the ultraviolet rays are transmitted through the filter. Certain substances, such as infected hairs from a patient with tinea capitis, fluoresce in a characteristic manner when exposed to the filtered rays in a darkened room. The Wood light was first used in the study of dermatoses in 1923 (Margarot and Deveze, Bull. Soc. d. sc. méd. et biol. de Montpellier **6**: 375, 1925).

TABLE 4.—*Distribution of Positive Cases by Age, Sex and Race*

Age, Years	No. of Cases	Male	Female	White	Negro
1	2	2	0	1	1
2	7	5	2	0	7
3	8	5	3	8	0
4	15	10	5	10	5
5	25	18	7	16	9
6	19	17	2	9	10
7	29	24	5	20	9
8	23	17	6	13	10
9	14	14	0	9	5
10	8	7	1	6	2
11	9	9	0	6	3
12	10	9	1	6	4
13	2	2	0	2	0
Total	171	139	32	106	65

Of the 171 cases of ringworm of the scalp only 32 (18.7 per cent) were in girls as compared to 139 in boys (81.3 per cent), the ratio of boys to girls being 4.3:1. This ratio is not as representative, statistically, as that recorded in an earlier report [1] (5.9:1) since the former is not based on a random sample of the population but merely represents the relative number of boys and girls who happened to report to the outpatient clinic for diagnosis and treatment.

There were 106 (62 per cent) cases in white children and 65 (38 per cent) in Negro children, and the ages of the patients ranged from 1 to 13 years, the most frequently affected age groups being 4 to 9 years inclusive. These observations are summarized in table 4.

As compared to findings in an earlier report,[1] the results observed on the distribution of cases of tinea capitis by sex and by the location of lesions on the scalp in this series are somewhat different (table 5). Patches of ringworm scattered over the entire scalp (generalized) were seen most frequently in both sexes, while hair line (occipital and/or temporal) involvement was much more commonly observed in the boys than in the girls. Also more girls than boys had vertex involvement. The seemingly greater incidence of generalized involvement in both sexes in this series may be explained again on the premise that the series is not based on a random sample, plus the fact that many of the patients attending the clinic are of the type which does not seek medical attention early in the course of the disease, i. e. before it has spread to involve most of the scalp.

TABLE 5.—*Distribution of Cases by Sex and Location of Lesions on Scalp*

Sex	Hair Line		Vertex		Generalized	
	No. of Cases	Per Cent	No. of Cases	Per Cent	No. of Cases	Per Cent
Male	63	45	3	2	73	53
Female	9	28	10	31	13	41

B. *Local Therapy.*—As to the evaluation of each of the various forms of local therapy used, only those cases of tinea capitis were included in the treatment series which were caused by M. audouini and were completely free from kerion or other evidence of secon-

dary infection. This was done because Livingood and Pillsbury [15] have shown that, in their series of cases due to M. audouini complicated by secondary infection, 70 per cent were cured without resort to x-ray epilation, i. e. by topical remedies alone.

In the present study no patient was included in the treatment series if his nursing care was known, through social service investigation, to be negligent, nor was he included if he failed to continue under treatment for at least sixty days. This was considered the minimum length of time necessary to evaluate the therapeutic effect of the ointment being tested. Of course, those few cases in which a complete clinical cure was noted in less than sixty days were included in the treatment series.

The following printed directions for home care were given to the mother of each patient:

Home Care for Ringworm of the Scalp

This disease is contagious to other children. Because of this, bring all other children in your family who are under 14 years of age to this clinic for examination. The patient should not go to the barber shop. He should wear a clean stocking cap at all times, even to bed and while in school. As a precaution, any children in the family who do not have ringworm of the scalp should be cautioned against using the patient's comb, brush or cap, and he should sleep alone if possible.

Please live up to these rules and help to stamp out this disease, which is gaining epidemic proportions in Detroit school children. The average case of ringworm of the scalp seen during this epidemic is very resistant to treatment and usually requires several months to get well. Careful attention to the above directions and regular attendance at the clinic are essential for cure.

Treatment

1. When you get the child home, shave the entire scalp. Hand clippers may be used first if available. Be sure to boil the instruments for ten minutes after use. Cut a hole in a newspaper and place it on the child's shoulders to catch the hairs as they are shaved off. The hairs and newspaper should then be burned. The scalp should be shaved once a week.

2. At bedtime shampoo the scalp with the soap provided. It is helpful to gently massage the shampoo into the scalp with a soft brush (a used tooth brush is suitable). Then rinse and dry well and apply the salve to the entire scalp, rubbing it in well, especially on the patches of ringworm.

3. Then apply a clean stocking cap and put the child to bed. Four or five stocking caps should be made up so that a clean cap is always available. After using the cap, it should be put in boiling water for ten minutes before washing. The child should be cautioned to leave the cap in place once it is put on. If this rule is not observed, the ringworm may spread from one patch to a normal area of the scalp and thus defeat the purpose of the treatment.

4. The next morning shampoo the scalp again and reapply the salve. Put on a clean stocking cap. The child should wear this all day long, even while in school. In cold weather, an ordinary cap may be worn over the stocking cap. Repeat this treatment every evening and morning.

5. On arising in the morning the child is brought to the clinic, the scalp should be shampooed and *no* salve applied. This is important so that adequate examination under the Wood light can be made.

15. Livingood, C. S., and Pillsbury, D. M.: Ringworm of the Scalp: Prolonged Observation, Family Investigation, Cultural and Immunologic Studies in 130 Cases, J. Invest. Dermat. 4: 43, 1941.

In most cases it was recommended that the scalp be shampooed with a soap substitute, such as one of the commercially available sulfated oil soaps having a slightly acid p_H. A soap substitute is less irritating than ordinary soaps and may be used twice daily on the scalp without fear of producing a soap dermatitis. Each patient was instructed to return to the clinic every two weeks for examination under the Wood light.

Results.—Of the 169 patients with tinea capitis due to M. audouini diagnosed during an eighteen month period, 79 patients were sufficiently cooperative to permit accurate evaluation of various forms of local therapy. Seventeen were treated with copper oleate ointment, 25 with undecylenate-undecylenic acid ointment and 37 with propionate-propionic acid ointment. There were no instances of scalp irritation resulting from the use of any of the three ointments.

A patient was considered "cured" if his scalp showed no fluorescent hairs under the Wood light for two consecutive weeks, and the "number of days under treatment" were counted up through the end of this period. The shaving of the scalp and the application of the ointment were then discontinued, and the mother was instructed simply to shampoo the scalp daily. If at the end of an additional two week period (total observation period four weeks) the scalp was still negative under the Wood light the child was classified as cured.

TABLE 6.—*Summary of Results of Treatment of Tinea Capitis Due to M. Audouini with Various Ointments*

Ointment	Cured	Mean No. of Days Treated	Decided Improvement	Mean No. of Days Treated	Moderate Improvement	Mean No. of Days Treated	No Improvement	Mean No. of Days Treated
Copper oleate	7 (41.2%)	132	..	..	2 (11.8%)	158	8 (47%)	179
Undecylenate-undecylenic acid	10 (40%)	125	8 (32%)	127	3 (12%)	87	4 (16%)	134
Propionate-propionic acid	15 (40.6%)	108	7 (18.9%)	133	4 (10.8%)	125	11 (29.7%)	127

A case of tinea which was labeled "decided improvement" exhibited many healed areas which formerly contained fluorescent hairs, and in some instances only an occasional fluorescent hair could be seen. In general it seems likely that such a case would be completely cured after a more prolonged period of treatment. This end result in such cases had not been attained at the time of this writing, owing to the necessity of bringing the clinical study to a close.

By "moderate improvement" is meant a case of the disease which was improving very slowly but steadily and in which the infected hairs showed a duller fluorescence at each successive examination under the Wood light.

"No improvement" was used to describe a case of tinea which exhibited as much involvement and brightness of fluorescence under filtered ultraviolet radiation as it did before treatment was begun.

As shown in table 6, 7 children (41.2 per cent) were completely cured after an average of one hundred and thirty-two days of treatment with copper oleate ointment. Of the remaining 10 in this group, none showed appreciable improvement, 2 (11.8 per cent) showed moderate improvement after an average of one hundred

and fifty-eight days of treatment and 8 (47 per cent) showed no improvement after an average of one hundred and seventy-nine days of treatment.

Undecylenate-undecylenic acid ointment produced cures in 10 (40 per cent) of the 25 children treated with this preparation over a period averaging one hundred and twenty-five days, 8 (32 per cent) were greatly improved after an average of one hundred and twenty-seven days of treatment, 3 (12 per cent) showed only moderate improvement in eighty-seven days and 4 (16 per cent) were not benefited at all after an average treatment period of one hundred and thirty-four days.

Fifteen cases of tinea capitis (40.6 per cent) were cured with propionate-propionic acid ointment over an average period of one hundred and eight days of treatment, 7 (18.9 per cent) were decidedly improved after one hundred and thirty-three days, 4 (10.8 per cent) were moderately improved over a mean period of one hundred and twenty-five days and 11 (29.7 per cent) showed no improvement after an average treatment period of one hundred and twenty-seven days.

COMMENT

Examination of table 6 reveals little difference between the percentage of cures with the three ointments tested clinically. The results with copper oleate (41.2 per cent cures) would seem to indicate that this preparation is the most efficacious of the three. The total number of patients treated with copper oleate (17), however, is much less than the number treated with the fatty acid preparations (25 and 37), and the average treatment period necessary to effect a cure was longer (one hundred and thirty-two days). Also the proportion of failures (47 per cent) was greater with copper oleate than with either of the other two ointments.

A comparison of the results of the in vitro experiments and the in vivo studies discloses that the copper oleate ointment, while only partially fungistatic and completely nonfungicidal in vitro, nevertheless has some curative value against M. audouini when used clinically. This illustrates the fact that, while laboratory experiments are valuable in the investigation of a therapeutic agent, it does not necessarily follow that their results will be substantiated by clinical experience with that agent. The alkaline reaction (p_H 8.0) of the copper oleate ointment may account in part for the lack of fungistatic and fungicidal action of this ointment in vitro.

The in vitro results with the undecylenate-undecylenic acid and propionate-propionic acid ointments show that these preparations possess both fungistatic and fungicidal properties, and the clinical results tend to confirm this, although the percentage of cures with these fatty acid ointments was not as high as had been anticipated.

Although the total number of cases of tinea capitis treated with undecylenate-undecylenic acid ointment (25) and propionate-propionic acid ointment (37) are not the same, the percentage of cures for each is about equal (40 per cent and 40.6 per cent). The average treatment period for the infections cured with propionate-propionic acid ointment was less (one hundred and eight days) than that with undecylenate-undecylenic acid ointment (one hundred and twenty-five days), but the proportion of failures was greater with the former (29.7 per cent) than with the latter (16 per cent). If one could assume that the patients showing "decided improvement" would eventually become cured, the balance of therapeutic effectiveness would tip in favor of undecylenate-undecylenic acid ointment (72 per cent) over propionate-propionic acid ointment (59.4 per cent).

As to the question of spontaneous cure of children with scalp infection due to M. audouini, Livingood and Pillsbury [15] state that cure following "little or no treatment" occurred in 27 per cent of their 105 cases of similar noninflammatory infections in children under the age of puberty. MacKee, Hermann and Karp [16] have recorded their experience to the contrary. They have observed a large number of patients who had the disorder for several months to two years and who had received little or no treatment. There were no spontaneous cures among these children, and they all showed a continued spread of the disorder. In the present study, in almost all the cases of ringworm of the scalp due to M. audouini the child gave a history of having had the disease for several months before seeking care at the outpatient clinic. This is in agreement with MacKee and his co-workers [16] and tends to support the idea that methods of local therapy for tinea capitis due to M. audouini produce cures on their own merits rather than on the basis of spontaneous cure.

A word should be said regarding recent reports on the local treatment of this type of ringworm. Keeney and Broyles [9] have found sodium propionate effective in 2 cases. These 2 children were said by their parents to be cured after three weeks of treatment; these allegedly cured patients were not rechecked under the Wood light, however. Shapiro and Rothman [12] treated 11 patients with undecylenate-undecylenic acid ointment (containing no wetting agent) and reported cures in 3 patients (27 per cent) after confirmation by repeated examination under filtered ultraviolet radiation. MacKee, Hermann and Karp [16] reported cures in 54 per cent of 58 children by the local application (following shampooing with an acid buffered detergent) of a fungicidal solution containing trimethyl cetyl ammonium pentachlorphenate. These authors admit that their method of treatment is time consuming and difficult to carry out under ambulatory conditions. Their best results occurred in closely supervised, hospitalized patients.

In general, from the clinical evidence presented in this communication it is difficult to say which of the three ointments tested is the most suitable for the treatment of tinea capitis due to M. audouini, although perhaps either of the fatty acid preparations might be preferable to the copper oleate ointment. At best the physician might try one of them for about sixty days and, if no evidence of improvement is observed under the Wood light by the end of that time, change to one of the other ointments.

It is obvious that these preparations are not the final answer to the problem of the local treatment of tinea capitis due to M. audouini, but they are possibly a step in the right direction, and it is hoped that this study will stimulate further investigation along these lines. In the meantime, however, it is suggested that these ointments, especially the fatty acid preparations, might be used: (1) in those cases of tinea capitis due to M. audouini for which x-ray epilation is not available or is refused by the parents of the child, (2) in cases

16. MacKee, G. M.; Hermann, F., and Karp, F. L.: A New Treatment for Anthropophilic Tinea Tonsurans (Microsporon Audouini), J. Invest. Dermat. 7: 43, 1946.

in which x-ray epilation is not practical, i. e. in very young or noncooperative children, (3) as a follow-up treatment after the x-ray epilating technic has been carried out, (4) in cases in which x-ray epilation has failed, and (5) in those cases in which a method of local therapy for tinea capitis is desired, pending the identification of the causative fungus.

SUMMARY AND CONCLUSIONS

Of 171 cases of tinea capitis diagnosed under the Wood light over an eighteen month period 169 (98.8 per cent) were due to Microsporon audouini, and in 2 cases (1.2 per cent) Microsporon lanosum was the causative organism. Of the M. audouini type infections, only 3 (1.8 per cent) were complicated by secondary infection or kerion.

The ratio of boys to girls in this series was 4.3:1. Sixty-two per cent of the patients were white children, while 38 per cent were Negro children. Their ages ranged from 1 to 13 years, the most frequently affected age group being 4 to 9 years old inclusive.

The largest percentage of the patients had generalized involvement of the scalp, probably because they did not seek medical care early in the course of the disease. More girls had involvement of the vertex than did the boys, and more boys had involvement of the hair line than did the girls.

The copper oleate ointment, while only partially fungistatic and completely nonfungicidal in vitro, still had some curative value against the fungus when used clinically. Of the 17 patients whose tinea capitis due to M. audouini was treated with this ointment, 41.2 per cent were cured after an average treatment period of one hundred and thirty-two days; 47 per cent failed to improve after an average of one hundred and seventy-nine days of treatment. The small size of the series of children on copper oleate therapy as compared to the larger number treated with the fatty acid preparations tends to make the slightly better results of treatment with the former ointment less significant statistically.

The in virto results with the undecylenate-undecylenic acid and propionate-propionic acid ointments show that these preparations possess both fungistatic and fungicidal properties. Forty per cent of the 25 children treated with undecylenate-undecylenic acid ointment were cured after an average treatment period of one hundred and twenty-five days, and an additional 32 per cent were well on their way toward recovery after an average of one hundred and twenty-seven days of treatment. The propionate-propionic acid ointment produced cures in 40.6 per cent of the 37 children treated with this preparation after an average treatment period of one hundred and eight days, and another 18.9 per cent were almost cured after an average of one hundred and thirty-three days of treatment.

None of the ointments tested in this study should be considered a substitute for x-ray epilation of the scalp as a form of therapy for tinea capitis due to M. audouini. It is felt, however, that these ointments, especially the fatty acid preparations, might be employed to good advantage, when used according to certain specific directions and in conjunction with a soap substitute, in the treatment or control of those cases of the disease for which x-ray epilation is not available or practical.

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INTRAUTERINE RESPIRATION OF THE HUMAN FETUS

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The human fetus in utero under normal environmental conditions is said to be in a state of apnea. Oxygenation of the blood is carried on by the placental circulation, so that theoretically intrauterine respiration could serve no useful purpose. It is the popular belief that, under the abnormal conditions which result in an inadequate oxygen saturation of the fetal blood, premature attempts at breathing ensue. Thus, abruptio placentae or cord entanglements may interfere with the oxygen supply to the fetus sufficiently to stimulate the latent respiratory mechanism and induce attempts at intrauterine respiration.

Respiratory movements of the fetus within the uterus have been observed and described many times. Ahlfeld [1] in 1888 was the first to call attention to the rhythmic movements of the fetus in the uterus near term. These movements involved the thoracic cage and were respiratory in character. Reifferscheid [2] confirmed these observations, but both authors felt certain that no amniotic fluid entered the lungs under normal conditions. Other observers have also noted respiratory-like activity of the normal fetus under normal intrauterine conditions. However, there has been no unanimity of opinion concerning the character and function of these spontaneous movements.

Some investigators believe that they represent true respiratory efforts. In their opinion these rhythmic excursions of the chest wall and diaphragm involve the passage of liquor amnii and its contents into the bronchi and the alveolar spaces. Thus, during the intrauterine life of the fetus pulmonary activity makes use of fluid rather than air as a medium of exchange. Snyder and Rosenfeld [3] provided evidence for this belief in a series of experiments. Pregnant rabbits were prevented from going into labor at term by the production of new corpora lutea through gonadotropin stimulation. At term or immediately afterward the animals were decerebrated and the abdomens opened in a warm water bath so that the fetuses would not be subjected to a radical change in environment. Some of the fetuses exhibited rhythmic respiratory movements which could be observed through the unopened uterus and which continued after the fetuses were delivered into the water bath. Snyder and Rosenfeld concluded that in the rabbit the intrauterine respiratory mechanism was not different from that present following delivery.

Windle and his associates [4] have not accepted this conclusion. They believe that the artificial conditions under which these and other experiments have been carried out have interfered with normal oxygen supply through the placental circulation. They have stated that the nervous mechanism necessary for respiratory activity is present as early as at twelve weeks gestation

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1. Ahlfeld, F.: Monatschr. f. Geburtsh. u. Gynäk. **21**: 143, 1905.
2. von Reifferscheid, W., and Schmiemann, R.: Centralbl. f. Gynäk. **63**: 146, 1939.
3. Snyder, F. F., and Rosenfeld, M.: Intrauterine Respiratory Movements of Human Fetus, J. A. M. A. **108**: 1946 (June 5) 1937.
4. Windle, W. F.; Becker, R. F.; Barth, E. E., and Schulz, M. D.: Surg., Gynec. & Obst. **69**: 705 (Dec.) 1939. Windle, W. F.: Physiology of the Fetus, Philadelphia, W. B. Saunders Company, 1940.

and that the fetus is capable of respiratory activity at that time. However, such movements occur only on rare occasions, and under normal conditions amniotic fluid is never drawn into the alveolar spaces. True respiratory movements in their opinion are always the result of an interference with the normal gaseous exchange between the fetus and its mother. Their conclusions are based on extensive experimentation with pregnant animals, some human material, and a careful study of the literature dealing with this phenomenon.

There are few direct observations relating to intrauterine respirations of the human fetus. The presence of débris from the amniotic fluid in the alveoli of some stillborn infants or infants dying in the first hours of life is proof that amniotic fluid can enter the lungs. However, these fetuses may have succumbed from an interference with their oxygen supply, or some morbid condition may have brought about an increase in fetal carbon dioxide, thereby disturbing the respiratory center. The fact that large amounts of this débris are almost invariably present in the lungs of fetuses suffering from a lack of sufficient oxygen as a result of a direct interference with the fetal circulation, as in premature placental detachment or compression of the umbilical cord, would seem to indicate that the anoxia is a definite causative factor. The alveoli in such instances are also more greatly dilated than when little or no débris is present.

Ehrhardt [5] injected a radiopaque substance, thorotrast, into the amniotic sac of a patient at about six months gestation and subsequently performed a therapeutic abortion. He found thorotrast in the intestinal tract but does not mention its presence in the lungs. Reifferscheid and Schmiemann repeated the same experiment and found thorotrast not only in the gastrointestinal tract but in the lungs as well.

Windle reported having examined x-rays of 6 infants who had been born after the injection of thorotrast into the amniotic fluid. No shadows indicative of thorotrast were present in the lungs. No data are given in his report concerning the amount of thorotrast or the interval of time elapsing between injection and delivery.

This brief background is sufficient to indicate that a great deal of experimental work has failed to establish the pattern of development of the respiratory mechanism in man. The relationship of intrauterine to extrauterine respiratory activity is still not understood. The studies reported here were undertaken in an attempt to obtain further evidence as to whether amniotic fluid normally moves in and out of the alveoli of the human fetus.

Previous studies on the physiology of the amniotic fluid (Dieckmann and Davis [6]) provided a method and the experience necessary to study intrauterine respiration of the fetus. These investigations had proved that it was feasible to puncture the amniotic cavity at any time from twelve weeks gestation to term. The amniotic cavity may be entered in about 2 of every 3 patients through the abdominal wall by means of long needles of appropriate caliber. If the placenta is encountered on the anterior wall, free blood is withdrawn into the syringe and no further attempts are made on the same patient. There is little risk if sufficient care is exercised.

TABLE 1.—*Injection of Thorotrast Into the Amniotic Cavity Prior to Therapeutic Abortion*

	Maternal Age	Indication for Operation	Interval in Hours Between Thorotrast Injection and Operation	No. of Cc. of Thorotrast Injected	Fetal Weight, Gm.	Fetal Length, Cm	Length of Gestation in Days from Menstrual Data	X-Ray Examination for Thorotrast		Histologic Evidence of Thorotrast
								Lungs	Stomach and Intestine	
1	24	Hypertension	48	35	39	12	133	Present	Present	Present
2	35	Feebleminded	23	30	92	21	126	Present	Present	Present
3	37	Heart disease	24	24	115	19	115	Present	Present	Present
4	38	Hypertension	24	15	114	18	107	Present	Present	Present
5	32	Heart disease	52	30	147	19	127	Present	Present	Present
6	35	Heart disease	17	40	150	20	118	Present	Present	Present
7	31	Heart disease	24	35	182	22	119	Present	Present	Present
8	35	Hypertension	24	35	198	22	130	Present	Present	Present
9	25	Heart disease	22	35	230	23	126	Present	Present	Present
10	36	Familial idiocy	28	12	236	23	138	Present	Present	Present
11	21	Feebleminded	24	12	240	21	?	Present	Present	Present
12	35	Hypertension	23	12	440	30	207	Present	Present	Present
13	40	Heart disease	½	12	9	7.7	115	Absent	Pharynx only	Absent
14	27	Hypertension	1	12	12	7.5	92	Absent	Absent	Absent
15	37	Three malformed children	½	12	41	12	97	Absent	Absent	Absent
16	26	Hypertension	1	12	110	18	127	Main bronchi	Slight	Absent

TABLE 2.—*Injection of Thorotrast Into the Amniotic Cavity Prior to Delivery by Cesarean Section*

	Age	Pregnancies	Indication for Operation*	Hours Between Injection of Thorotrast and Operation	Amount of Thorotrast Injected, Cc.	Sex	Weight, Gm.	Location of Thorotrast in Gastrointestinal Tract	X-Ray Evidence of Thorotrast in Lungs
17	30	P2 G2	B	22	35	♂	3,140	Ileum	Definite
18	24	P3 G4	A	20	35	♂	3,035	Colon	Definite
19	27	P3 G4	B	23	35	♀	3,220	Stomach to ileum	Definite
20	31	P3 G3	B	48	48	♂	2,930	Colon	Definite
21	36	P5 G6	B	21	45	♂	3,170	Ileum	Definite
22	26	P2 G2	A	22	24	♂	3,270	Stomach to rectum	Probable
23	18	P1 G1	A	24	35	♀	2,970	Jejunum, ileum	Probable
24	27	P3 G3	A	16	30	♀	4,935	Stomach to cecum	Questionable
25	37	P3 G4	C	22	30	♂	3,585	Ileum	Questionable
26	28	P1 G1	C	20	35	♀	3,980	Colon	Questionable

* Indications for delivery by cesarean section: A, contracted pelvis; B, previous cesarean section; C, diabetes mellitus.

5. Ehrhardt, K.: München. med. Wchnschr. **84**: 1699, 1937; **86**: 915, 1939.

6. Dieckmann, William J., and Davis, M. Edward: Am. J. Obst. & Gynec. **25**: 623, 1933.

These experiments were carried out on two groups of patients: the first was made up of women in the first half of gestation, the second of women at or near term. The first series included 16 women in whom therapeutic termination of pregnancy was decided on because of some serious maternal complication. Because no further pregnancies were desirable, a laparotomy was performed, the fetus was removed by hysterotomy and sterilization was accomplished by tubal ligation or hysterectomy. The pregnancies were normal in all instances. Each termination was performed at a time in the gestation selected to provide fetuses of varying ages. To eliminate sedation or anesthesia as factors which might interfere with fetal oxygenation through the placenta, no barbiturates or sedative drugs were administered prior to the delivery of the fetus, and each operation was carried out under spinal anesthesia or local infiltration of the abdominal wall and peritoneum.

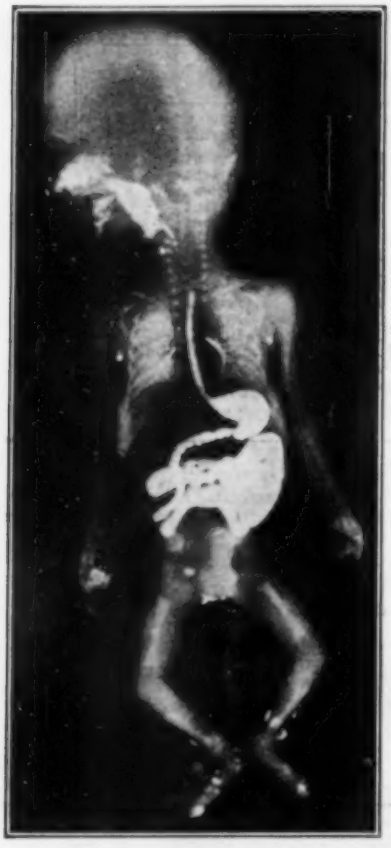

Fig. 1.—Fetus 1, weight 39 Gm. Thorotrast in lungs, nose, mouth, pharynx, esophagus, stomach, intestine and in small amounts on the surface of the body. The bronchi are well shown.

From 12 to 40 cc. of amniotic fluid was withdrawn and replaced with thorotrast (thorium hydroxide). In 12 of these 16 patients the pregnancy was terminated seventeen to fifty-two hours later. In 4 patients delivery of the fetus was accomplished within thirty to sixty minutes following the injection (table 1).

At the time of operation the uterus was incised and the fetus lifted out from the amniotic sac as rapidly and with as little manipulation as possible. The cord was severed and tied and the fetus sent to the x-ray laboratory immediately. All were alive and normal at birth and made active muscular movements. Their hearts continued to beat from one-half to one hour after delivery, and all made repeated respiratory efforts.

The first 12 fetuses weighed from 39 to 440 Gm. All showed thorotrast in the stomach and throughout the intestinal tract on x-ray examination, as shown in the illustrations. In the majority the opacity is greater than for undiluted thorotrast, indicating a concentration of the material as a result of absorption of fluid from the gastrointestinal tract. Fetus 6, in which the time interval is the shortest (seventeen hours), shows a shadow both in the lungs and in the gastrointestinal tract which is considerably less dense than those in whom the material has been present for a longer time. There is no change in the density of the shadows in either the lungs or the gastrointestinal tract after twenty-two hours, indicating that the maximum concentration has probably been reached.

The last 4 fetuses weighed from 9 to 110 Gm. The first 2 unfortunately weighed only 9 and 12 Gm., but

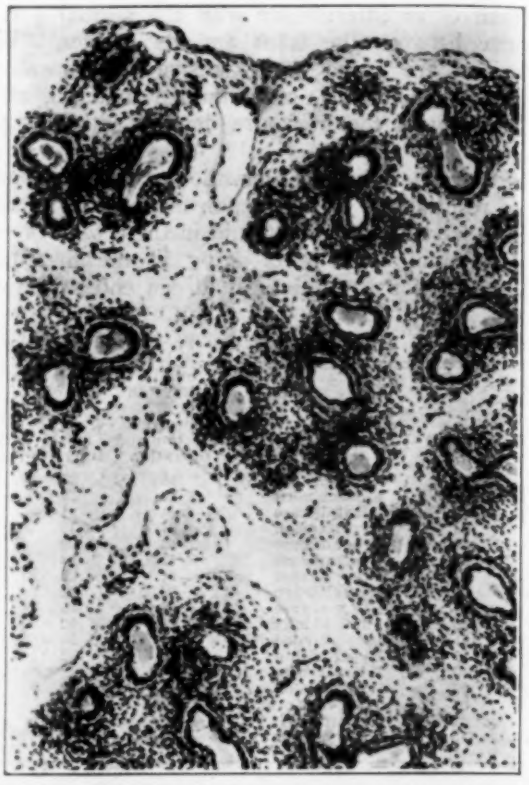

Fig. 2 (fetus 1).—Section showing thorotrast in the pulmonary tree. Reduced from a photomicrograph with a magnification of 145 diameters.

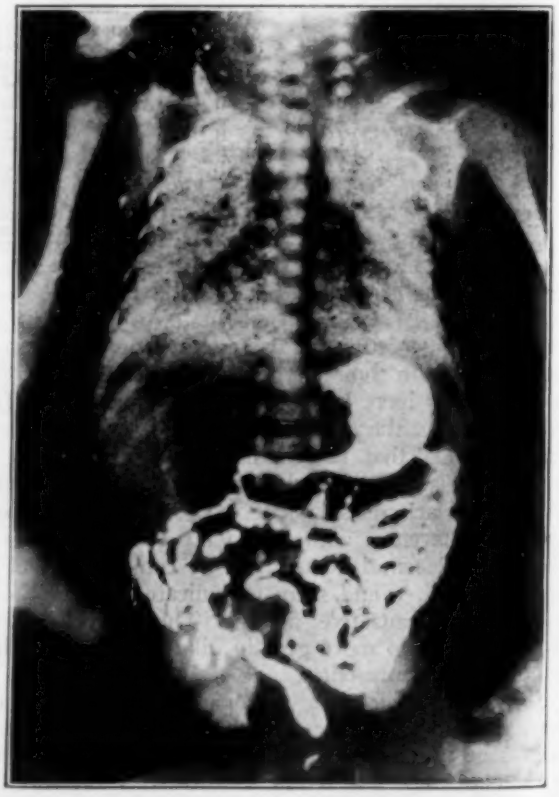

Fig. 3.—Fetus 2, weight 91 Gm. Thorotrast in lungs, stomach and entire intestinal tract.

the other 2 are comparable in size to the fetuses included in the first part of the series. Only one-half to one hour was allowed to elapse between injection of thorotrast and removal of the fetus from the uterus in an attempt to determine whether factors intrinsic in the operation might be responsible for the presence of thorotrast in the lungs. No thorotrast was demonstrated in any of these 4 fetuses except in the main bronchi of fetus 16, which weighed 110 Gm. Microscopic examination failed to reveal the presence of thorotrast in the lungs of any of the 4 fetuses. It seems justifiable to conclude that the presence of thorotrast is not related to the operative procedure.

The lungs of the previable fetuses were carefully fixed in solution of formaldehyde immediately after the x-ray examinations were completed. Reproductions of photomicrographs of the lungs are shown with the

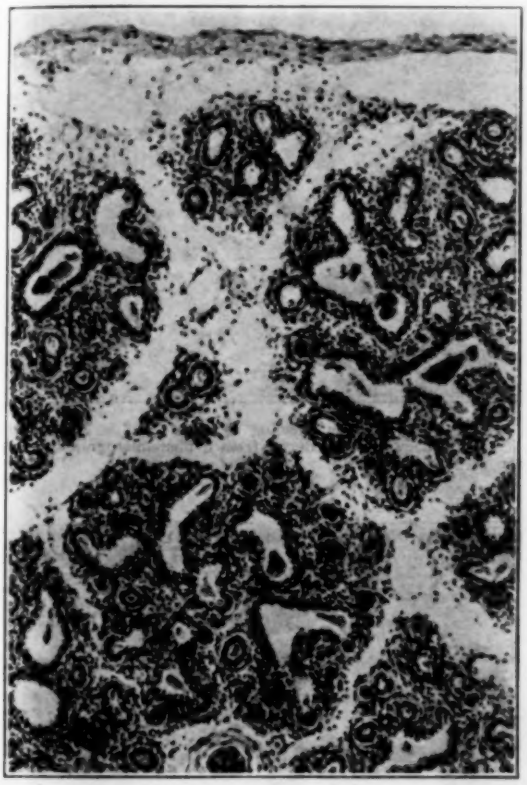

Fig. 4 (fetus 2).—Section showing thorotrast in pulmonary tree. The spaces are irregularly dilated by respiration following removal from the uterus. Reduced from a photomicrograph with a magnification of 145 diameters.

corresponding x-ray films, so that they can be correlated. All the histologic preparations are reproduced at the same magnification in order that the development of the fetal lung as well as the distribution of thorium within it can be studied. In the lungs of all the fetuses in which the presence of thorium could be identified by x-ray shadows, thorium can be seen histologically in the bronchi, in the alveolar ducts and in the alveolar spaces where these have become differentiated. The widespread distribution of the thorium is indicative of the circulation of amniotic fluid throughout all the lung spaces.

Microscopic examination reveals a gradual progression in the development of the fetal lung which is directly related to increasing fetal weight. The length of gestation as obtained from the menstrual history seems to have little relation to fetal weight and no correlation to histologic differentiation of lung structure. No alveoli are visible except in fetus 12, whose weight is 440 Gm. Prior to this time the lungs show an increase in size and complexity of the lobules because

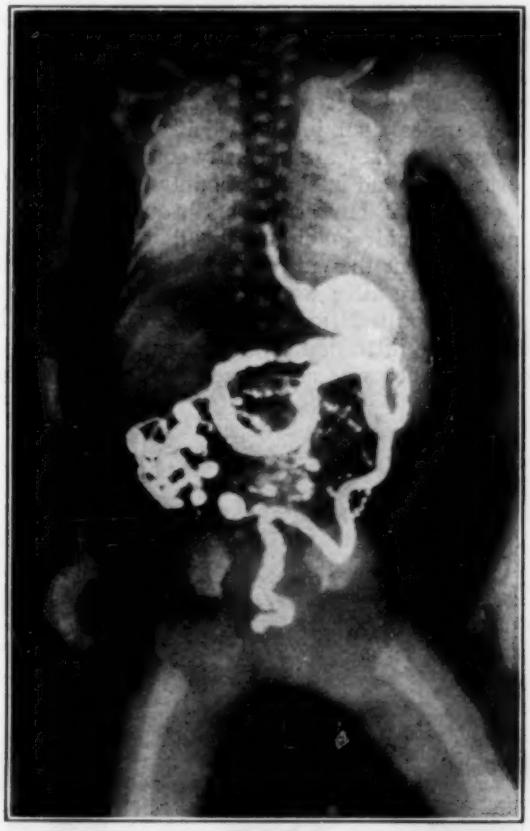

Fig. 5.—Fetus 3, weight 115 Gm. Thorotrast in lungs, esophagus, stomach and entire intestinal tract.

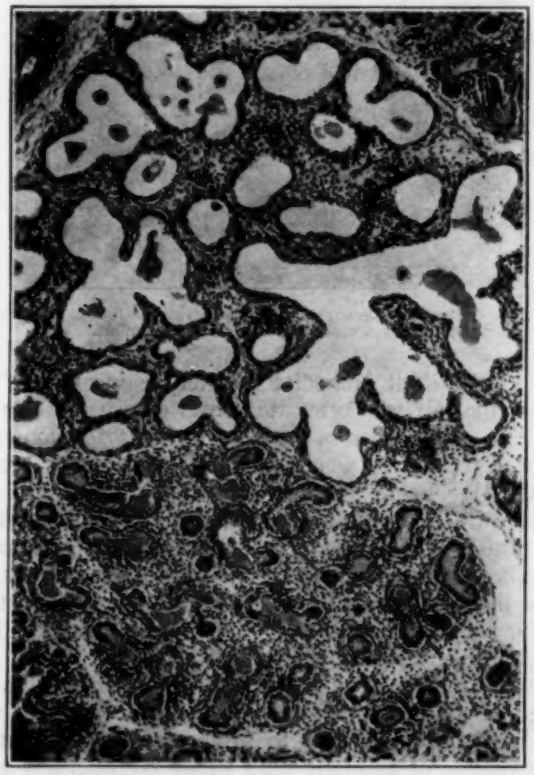

Fig. 6 (fetus 3).—Contrast between expanded and unexpanded branches of the pulmonary tree. Thorotrast is present in similar amounts in the expanded and unexpanded air spaces. Reduced from a photomicrograph with a magnification of 120 diameters.

of an increase in the number of branches of the "end knobs" of the embryonic lung, but no differentiation beyond the stage of alveolar ducts has occurred except in this fetus.

Except for terminal buds that have not yet become canalized, all portions of the pulmonary tree in all lungs have demonstrable lumens. These lumens are proportionately larger and more prominent in the younger fetuses than in the older ones, but there is no evidence that they are normally collapsed at any age.

Thorium is found in equal amounts in all parts of the lungs of the 12 fetuses. This would indicate that the amniotic fluid containing the thorotrast circulated freely throughout the entire pulmonary tree. Since all the fetuses were alive when removed from the uterus, all made repeated inspiratory movements. These resulted in the dilatation of air spaces, and it was only when the trachea was constricted by a ligature placed

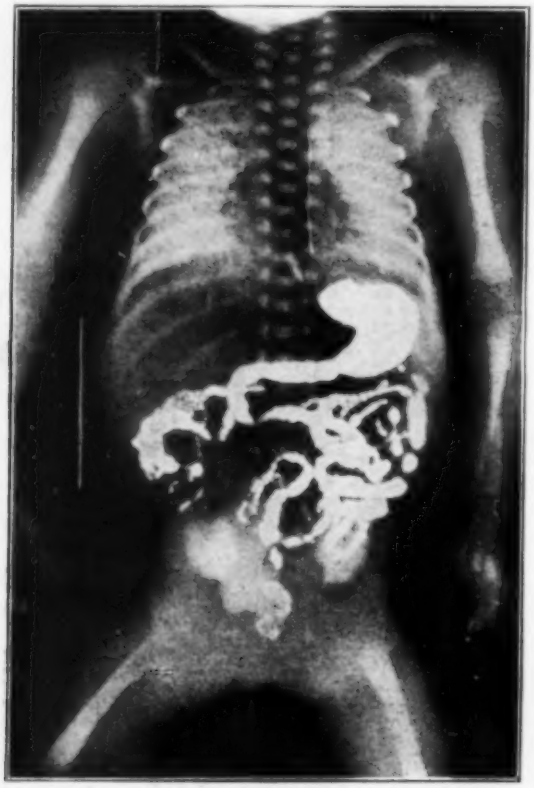

Fig. 7.—Fetus 5, weight 147 Gm. Thorotrast in lungs, stomach and entire intestine. The heart shadow is readily discernible.

around the neck immediately after removal from the uterus that air was prevented from entering the lungs.

The second series of patients includes 10 women at or near term who were delivered by cesarean section (table 2). From 24 to 48 cc. of amniotic fluid was withdrawn and replaced with a similar amount of thorotrast. The infants were delivered sixteen to forty-eight hours later. X-ray examinations of the infant lungs immediately after delivery show evidence of thorotrast in the alveolar spaces in 5, its probable presence in 2 and no definite evidence in 3.

It is probable that some thorium is present in the lungs of all these infants, but the concentration may not have been sufficient to produce a visible shadow. The volume of amniotic fluid varies considerably at or near term, averaging about 600 cc. The average amount of thorotrast injected, 35 cc., will yield about a 5 per cent solution. It was not considered desirable to inject more than this amount because of the radioactivity of the substance. Although several of the babies were checked for radioactivity ten days after delivery and

Fig. 8 (fetus 5).—Section showing thorotrast and a small amount of air in the pulmonary tree. Reduced from a photomicrograph with a magnification of 145 diameters.

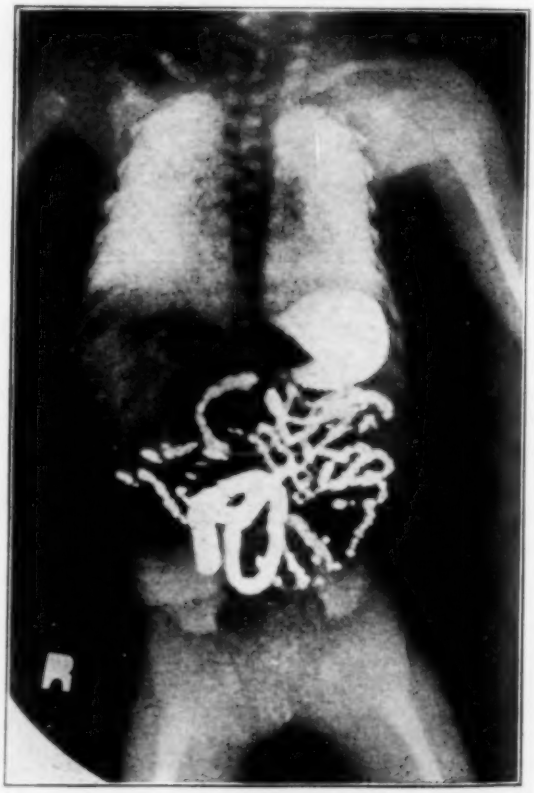

Fig. 9.—Fetus 8, weight 198 Gm. Thorotrast in lungs, stomach and entire intestine.

none was present, nevertheless we hesitated to use greater amounts in the presence of a viable baby.

In an attempt to determine the minimum concentration of thorotrast in amniotic fluid which could be identified by x-ray examination, the following experiment was carried out: Fifteen cc. of a 5 per cent solution was poured into the lungs of a stillborn baby. No typical lung shadow could be demonstrated. There was visible evidence of the thorium when 20 cc. of a 10 per cent solution was subsequently introduced. However, the lung shadows were not as characteristic as those found in some of the living babies. The failure to demonstrate thorium in the lungs of all the term babies may be due to the excessive dilution of the material by the amniotic fluid, to an inadequate time interval between the introduction of the thorium and the delivery, to less than average respiratory activity or to a combination of these factors.

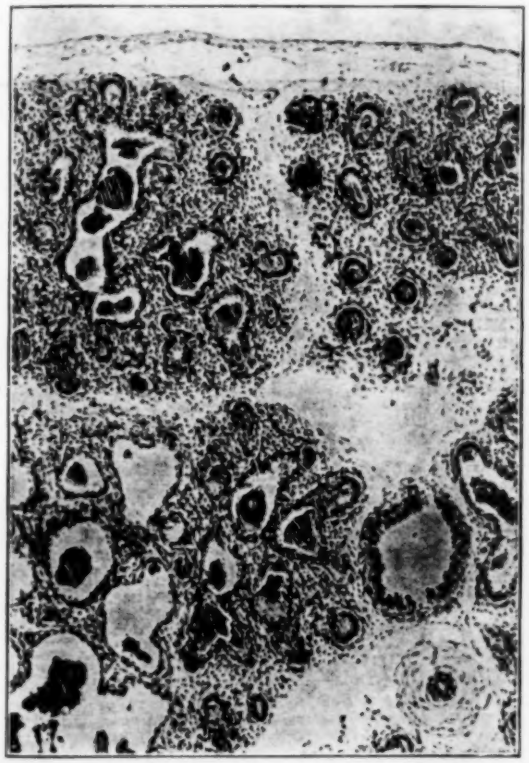

Fig. 10 (fetus 8).—Section showing thorotrast in the pulmonary tree. Several respiratory ducts have been dilated by the entrance of air. Reduced from a photomicrograph with a magnification of 145 diameters.

COMMENT

The roentgenograms of the fetuses seem to demonstrate conclusively that amniotic fluid and its contents are normally aspirated into the lungs as part of the intrauterine respiratory activity. This phenomenon is present in our youngest fetus, weighing 39 Gm. and of approximately twelve weeks gestation, and continues throughout the intrauterine existence of the fetus.

The x-rays of the lungs reveal mottled shadows produced by the radiopaque thorium. In the younger fetuses these lung shadows have a finally granular appearance. In the older ones the lung shadows are more coarsely granular and the general lung pattern can be seen.

The variation in the density of the shadows depends on several factors. In the first place the amount of the amniotic fluid was not ascertained and the amount of thorotrast injected depended roughly on the duration of the gestation and the size of the fetus. As a result there are wide fluctuations in the concentration of thorium in the amniotic fluid. That the density of the lung shadows is dependent on the concentration of

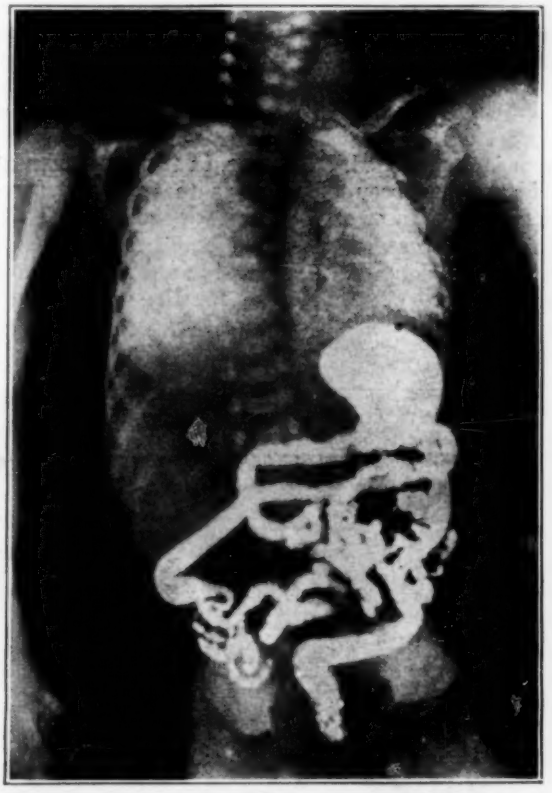

Fig. 11.—Fetus 10, weight 236 Gm. Thorotrast in lungs, stomach and entire intestine.

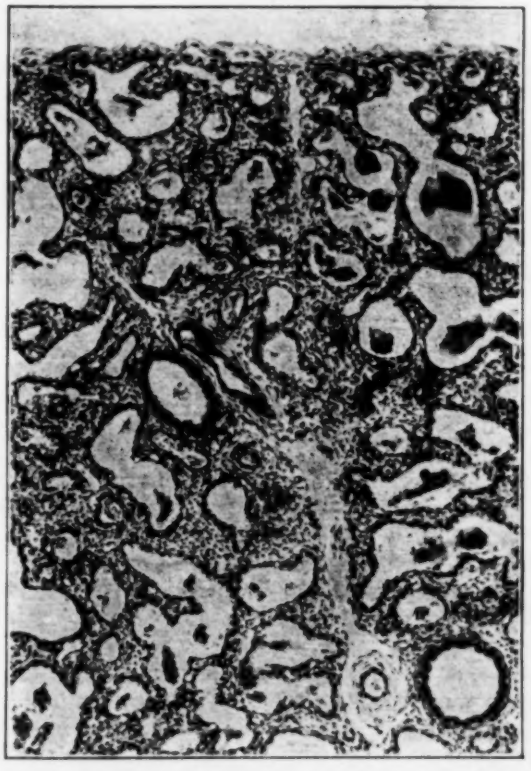

Fig. 12 (fetus 10).—Section showing thorotrast in the alveolar ducts. Air is also present as a result of extrauterine respiratory activity. Reduced from a photomicrograph with a magnification of 145 diameters.

thorium has been demonstrated on the dead fetus. The second factor is controllable and represents the time interval from the injection of the material into the amniotic cavity until the fetus is removed from this environment. The longer the interval the more dense the shadow should be. Lastly, respiratory activity in the fetus is spasmodic in character. Respiratory movements may take place for a few moments and be resumed only after an indefinite period. Some investigators have postulated that these spontaneous movements become more frequent and last for longer periods of time as term is approached. However, in these experiments no evidence has been obtained as to this fact, for most of the tiny fetuses show very dark shadows. This may mean an increased concentration of thorium or much respiratory activity. A general correlation can be made between two of the factors, for the greater the concentration of thorium and the longer the interval, the more dense the lung shadows.

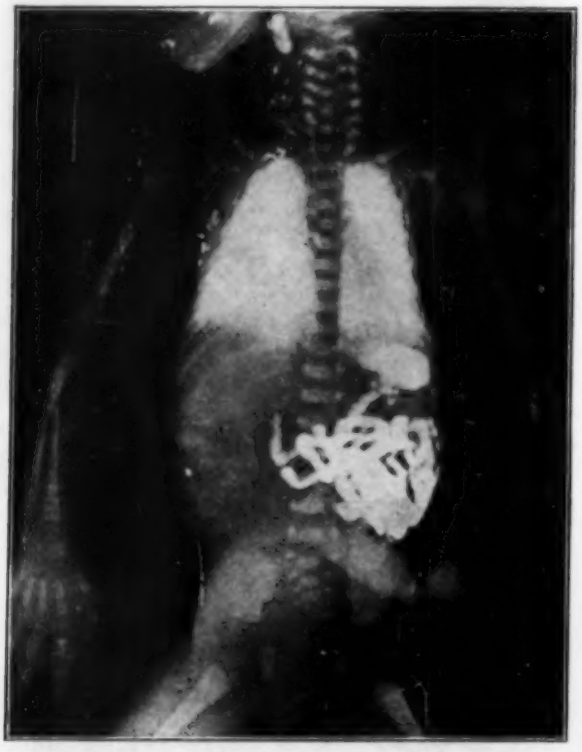

Fig. 13.—Fetus 12, weight 440 Gm. Thorotrast in lungs, stomach and small intestine.

Thorium is concentrated in the lungs as a result of the fluid absorption by the prealveolar and alveolar circulation. Much of the amniotic fluid which enters the pulmonary passages escapes in this manner, leaving the thorium behind. It is for this reason that high dilutions of this mineral results in sufficient accumulation to provide dense lung shadows. Some of the fluid aspirated into the respiratory tract may escape back into the amniotic cavity.

The mechanism of fluid absorption from the lung has been of considerable concern in recent investigations. A monograph by Winternitz [7] on the "Pathology of War Gas Poisoning" presents interesting data on the capacity of the lung to absorb huge amounts of fluids. One conclusion "that large quantities of salt solution can be introduced without serious disturbance to the general condition of the animal and without causing gross destruction of lung tissue" is very interesting. These experiments provide a physiologic explanation

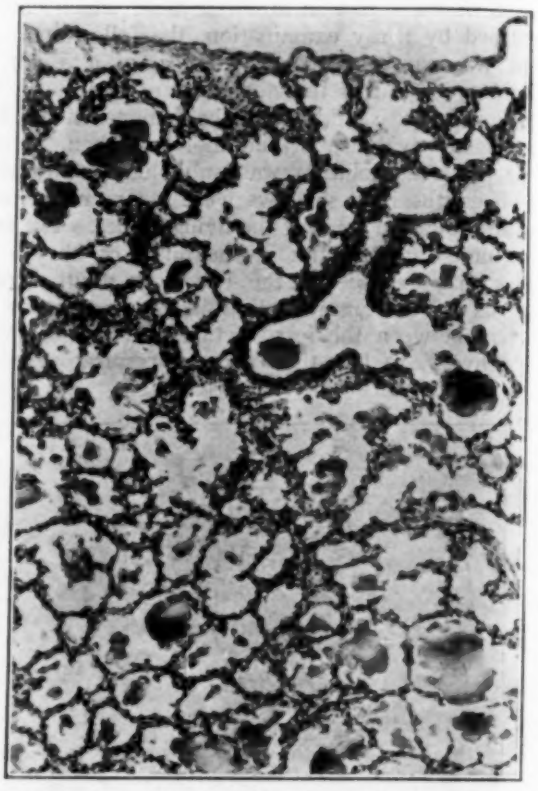

Fig. 14 (fetus 12).—Section showing thorotrast in the majority of the alveolar ducts. These, and the alveoli which are beginning to appear, have been expanded by extrauterine respiration. Reduced from a photomicrograph with a magnification of 145 diameters.

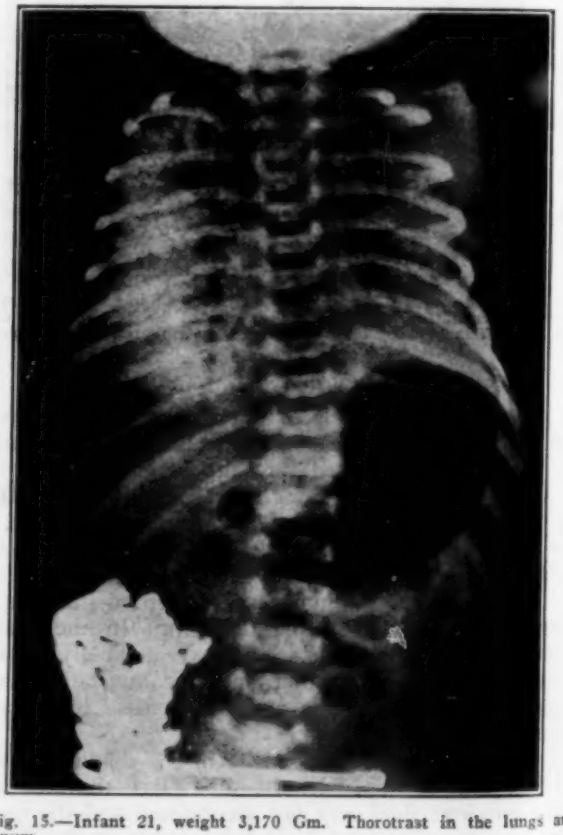

Fig. 15.—Infant 21, weight 3,170 Gm. Thorotrast in the lungs and jejunum.

7. Winternitz, M. C.: Pathology of War Gas Poisoning, New Haven, Conn., Yale University Press, 1920.

for the fact that fluids can circulate through the lung passages during intrauterine life without any embarrassment to the fetus. Furthermore, in intrauterine fetal distress with its associated anoxia the excitation of the respiratory mechanism results in exaggerated respiratory efforts and the aspiration of large amounts of amniotic fluid, but death occurs not because of this excessive fluid but because the fetal circulation has been embarrassed. A prompt recovery from the resultant anoxia would probably lead to a rapid absorption of the fluid in the lungs. It can be concluded that an aquatic existence for the fetus is normal during its intrauterine life.

This study has provided pertinent information concerning gastrointestinal activity. The complete gastrointestinal tract is clearly visualized in the youngest fetus, weighing only 39 Gm. and about 12 weeks old. This is the earliest demonstration of fetal swallowing and gastrointestinal function. It is not within the scope of this paper to discuss this phase of our work except to call attention to an interesting approach to the study of the intrauterine life of the human fetus.

The physiologic function of respiration does not begin as many have postulated at the time the fetus takes its first extrauterine breath. Its origin goes back to early pregnancy, when respiratory movements commence. This intrauterine respiratory activity is spasmodic, irregular and shallow, but it does not differ greatly from its extrauterine pattern. Intrauterine breathing is associated with the circulation of amniotic fluid throughout the lungs. The major changes at birth involve the substitution of air for fluid and the development of a more sensitive respiratory mechanism.

There is no doubt that intrauterine respiration represents the intrauterine development of a major physiologic function. Does the pulmonary circulation of amniotic fluid contribute to this development? We do not know the answer. That it contributes to the development of intrauterine pulmonary infection there is little doubt. Snyder and Rosenfeld have demonstrated that there exists a delicate balance between oxygen and carbon dioxide in the control of intrauterine respiratory movements. Too much or too little carbon dioxide will suppress fetal respiration. It is their opinion that hyperventilation in utero does not take place but fetal anoxia leads to a slowing down or suppression of respiratory activity. More information on these problems must be secured in order to provide an intelligent answer to many clinical problems.

SUMMARY

New evidence has been obtained to support the thesis that the respiratory activity of the human fetus in utero is similar to that after its delivery. The general pattern of respiratory activity is developed very early in fetal life. During the intrauterine period respiratory movements are intermittent, irregular and shallow but they result in the free circulation of amniotic fluid throughout the lungs. At birth air is substituted for fluid, and respirations become deeper, regular and continuous, but the pattern remains the same. The major change involves the substitution of air for fluid as a medium of exchange.

Fetal swallowing and complete gastrointestinal activity has been demonstrated for the first time in a human fetus weighing 39 Gm. - 12 wk.

5841 Maryland Avenue.

SYNTHETIC FOLIC ACID THERAPY IN PERNICIOUS ANEMIA

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and
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Our purpose in this communication is to show the responses of 6 unselected patients with addisonian pernicious anemia to various doses of synthetic folic acid as reflected by changes in the hemoglobin and the red cell and reticulocyte counts.

The experimental and laboratory data on the clinical and biologic activities of the Lactobacillus casei factor have been thoroughly discussed by Moore and his associates [1] and the clinical aspects of folic acid in the treatment of patients with macrocytic hyperchromic anemia were recently reported by Spies.[2] Further evaluation of the antianemic properties have been added by Doan and his associates [3] and by Spies.[4]

METHODS OF STUDY

All patients in this series were hospitalized during the full period of observation. Control intervals of from three to nine days were required for investigation and diagnosis.

The diagnosis of addisonian pernicious anemia was made on the patient's history, physical and neurologic findings and laboratory data, including sternal marrow biopsy. The results of gastric analysis, x-ray and fluoroscopic studies of the gastrointestinal tract and additional pertinent laboratory data are included in the various case summaries. Hemoglobin, erythrocytic and reticulocytic responses to therapy are noted on figures 1 to 4.

The synthetic L. casei factor (folic acid)[5] used in this investigation was described as having identical ultraviolet light absorption spectrums with L. casei factor isolated from liver. The infra-red and microscopic appearance of the crystals of the two compounds are similar. The materials are equally active for L. casei and Streptococcus fecalis R., and it is reported as active for hemoglobin formation and growth promotion in the chick.[6]

Early oral administration was accomplished with accurately weighed quantities of the crystalline chemical contained in gelatin capsules. Subsequently, when tablets became available from the manufacturer, these were administered orally. Early intramuscular administration was accomplished with a solution made by adding 100 mg. of synthetic folic acid to 100 mg. of sodium bicarbonate in 20 cc. of freshly distilled water. This was autoclaved at 15 pounds pressure for fifteen minutes. No local or general reactions were observed. Later, ampules were supplied directly from the manufacturer containing 2 mg. of synthetic folic acid per cubic centimeter.

From the medical and pathologic services of St. Luke's Hospital.

1. Moore, C. V., and others: Activity of Synthetic Lactobacillus Casei Factor (Folic Acid) as an Anti-Pernicious Anemia Substance, J. Lab. & Clin. Med. **30**: 1056, 1945.
2. Spies, T. D.; Vilter, C. F.; Koch, M. B., and Caldwell, M. H.: Observations on the Antianemic Properties of Folic Acid, South. M. J. **38**: 707, 1945.
3. Doan, C. A., and others: An Essential Panhematopoietic Factor: Experimental and Clinical Studies, Ohio State M. J. **42**: 139, 1946.
4. Spies, T. D.: Effect of Folic Acid on Persons with Macrocytic Anemia in Relapse, J. A. M. A. **130**: 474 (Feb. 23) 1946.
5. The synthetic folic acid used in this study was furnished by Lederle Laboratories, Pearl River, N. Y.
6. Angier, R. B., and others: Synthesis of a Compound Identical with the L. Casei Factor Isolated from Liver, Science **102**: 227, 1945.

After the initiation of the synthetic folic acid therapy, daily red blood cell counts, hemoglobin determinations and reticulocyte counts were made. All reticulocyte counts were made on smears which had been stained with a 1 per cent solution of brilliant cresyl blue in isotonic solution of sodium chloride and counterstained with Wright's stain to provide a permanent preparation. It is to be noted that reticulocyte counts performed in this manner tend to be somewhat lower than those made by means of a wet technic.[7] The advantages of permanent preparations for checking purposes and for demonstration are felt to outweigh the value of slightly higher reticulocyte counts which might have been obtained by use of a wet technic.

All subjects of this study were placed on hospital ward diets, omitting liver, kidneys and sweetbreads. It was felt that a diet omitting all meat, fish or fowl was unnecessary. The patients were allowed the privileges of a convalescent as soon as their general condition permitted.

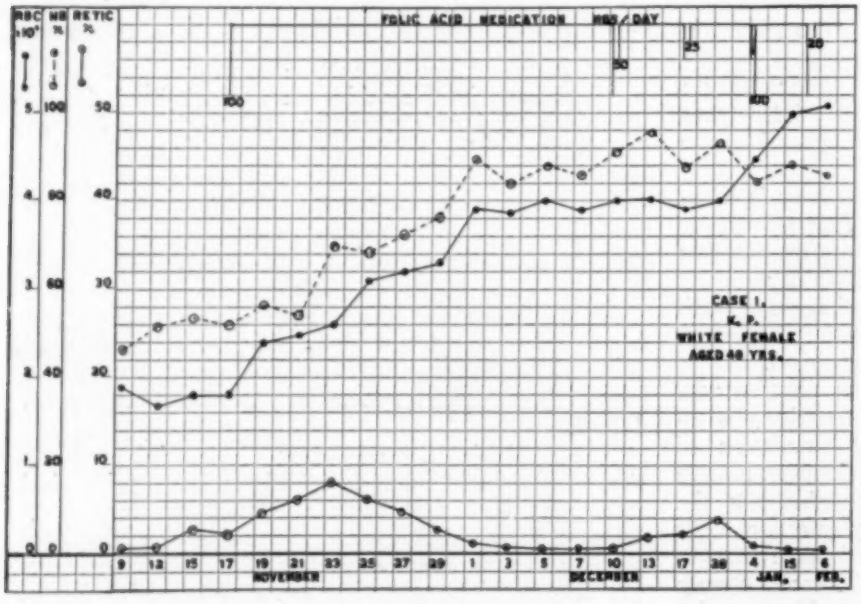

Fig. 1.—Red blood cells, hemoglobin and reticulocytes in case 1.

During the period of observation, no parenteral therapy other than synthetic folic acid was administered to any patient in this series. No iron or other antianemic substances were given. Specific antianemic medication received prior to this study is noted in the case summaries.

No evidence of cutaneous, gastrointestinal or systemic sensitivity was noted in any case during its period of observation. The drug appeared to be well tolerated when given by oral or intramuscular routes in all 6 cases.

Case 1.—*History.*—K. P., a white woman aged 48, American, admitted Nov. 8, 1945, complained of progressive weakness and weight loss of six months' duration and diarrhea for six weeks prior to admission. She had been hospitalized at another institution seven years before (1938). A diagnosis of pernicious anemia was made at that time and parenteral liver therapy instituted; her red blood cell count and hemoglobin had apparently been maintained with liver therapy until the onset of the present illness. Two years before admission (1943) she was again hospitalized at another institution with the diagnosis of tertiary syphilis and pernicious anemia. The latter was adequately treated with parenteral liver. A course of fever therapy (malaria) was given with good results, and she was discharged to the outpatient clinic of that hospital for liver and additional antisyphilitic therapy. The blood count at that time was reported within normal limits. Additional past, dietary and family history was noncontributory.

The present illness began six months before admission (May 1945), at which time she discontinued all medication following an emotional crisis. During the ensuing six months she noted increasing weakness, fatigability, anorexia and a weight loss of approximately 25 pounds (11.3 Kg.). For six weeks before admission she had had frequent attacks of watery diarrhea without cramps or mucus. Fresh blood was noted on one occasion. For several weeks before admission she stumbled and fell on numerous occasions, and large ecchymotic areas appeared on her legs. For ten days prior to admission she had been unable to stand or walk without support. Review by systems revealed no other symptoms.

Examination.—The patient appeared nervous, excitable and well developed but emaciated. The skin showed a lemon yellow tint, many scattered petechial spots and large ecchymotic areas over both legs. The mucous membranes were pale. The tongue was smooth and showed complete loss of papillae along its margins. A blowing systolic murmur was heard at the apex of the heart. The spleen was easily palpable. Several small external hemorrhoids were present. Neurologic examination disclosed muscle weakness with loss of vibratory sense of both lower extremities. Knee and ankle jerks were absent bilaterally. The temperature was 100 F., the pulse rate 100, the respiratory rate 20 and the blood pressure 100 systolic and 50 diastolic.

The initial laboratory examination revealed that the urine was normal (urobilin negative). The blood showed a hemoglobin of 44 per cent, 7.6 Gm., red cell count 1.8 million per cubic millimeter, white cell count 3,500, with a differential count of 67 polymorphonuclears, 32 lymphocytes and 1 monocyte. The platelets numbered 100,000, reticulocytes 2.6 per cent, hematocrit 19; the color index was 1.7, the mean corpuscular volume 105 and the volume index 1.4. The red cells showed anisocytosis, poikilocytosis, polychromasia and occasional macrocytes. The fragility of the red cells to hypotonic saline solutions showed that the control began at 0.335 per cent and was complete at 0.310, and the patient's blood began at 0.385 per cent and was complete at 0.335. Chemical examination of the blood showed the icterus index to be 7, the sugar 92 mg. per hundred cubic centimeters, urea nitrogen 10 mg. per hundred cubic centimeters. The sternal marrow smear showed hyperplastic bone marrow, with 13 per cent megaloblasts and a total of 38 per cent of the nucleated cells in the red cell series.

The tourniquet test was positive.

Gastric analysis showed achlorhydria after histamine injection.

The stool showed no blood, ova or parasites.

The blood and spinal fluid Wassermann reaction was 4 plus.

The colloidal gold curve was 1, 1, 5, 2, 2, 1.5, 1, 0.5.

X-ray studies of the chest, gastrointestinal series and barium enema revealed no abnormalities.

The electrocardiogram was normal.

A diagnosis of addisonian pernicious anemia and tertiary syphilis was made.

Course.—The patient was placed on 100 mg. of synthetic folic acid in two divided daily doses. Oral medication using divided doses was continued throughout the course. Subjective improvement was noted five days after the start of medication. An increase in the reticulocyte count was noted on the second

7. Murphy, W. P.: Anemia in Practice, Philadelphia, W. B. Saunders Company, 1939, p. 293. Wintrobe, M. M.: Clinical Hematology, Philadelphia, Lea & Febiger, 1942, p. 58.

day of synthetic folic acid therapy. The maximum reticulocyte response (8.1 per cent) was observed on the sixth day of folic acid therapy. The white blood cell count rose from the admission level of 3,500 to 7,500 during observation. The differential count remained normal. The platelets rose from 90,000 to 180,000 during the first thirty days of folic acid medication.

The daily dose of 100 mg. was continued for twenty-two days, after which the patient was given 50 mg. in divided doses for six days; this was followed by 25 mg. daily for seventeen days.

At that time it was felt that, despite striking subjective and clinical improvement, the red cell count and hemoglobin were not rising rapidly enough, and the dose was again increased to 100 mg. per day for fourteen days in an effort to obtain a better hemopoietic response. On the fifty-ninth day after the initiation of folic acid therapy and after the patient had received a total of 4.33 Gm. of the drug she was discharged from the ward on an estimated maintenance dose of 25 mg. of synthetic folic acid daily.

Physical examination at the time of discharge to the hematology clinic seventy-nine days after admission revealed decided subjective and clinical improvement. The diarrhea had subsided completely. Her appetite had become ravenous, and she had gained 16 pounds (7.3 Kg.) in weight. Her neurologic findings were essentially unchanged. The red blood cell count was 5,010,000, with 84 per cent hemoglobin. The white blood cells, platelets and reticulocytes were within normal limits.

The patient returned to the Hematology Clinic three weeks after discharge, and at that time her red blood cell count was 5,100,000 with 82 per cent hemoglobin, and she stated that she felt better than she had in years.

The hemoglobin, red cell and reticulocyte response are plotted on figure 1.

CASE 2.—*History.*—F. DeC., a man aged 69, an Italian priest, was admitted Nov. 9, 1945 complaining of progressive fatigability, weakness and exertional dyspnea of four months' duration, and mild nonradiating midepigastric pain for three weeks prior to admission. No pertinent past, family or dietary history was elicited.

The patient had noted the onset of gradually increasing weakness, fatigability and exertional dyspnea four months before admission. His appetite had remained good, and there were no associated symptoms. Three weeks before admission he began to have vague, mild, intermittent nonradiating, midepigastric discomfort. This was not associated with meals, nausea or vomiting, and there was no diarrhea. He fainted while visiting a parishioner and was brought to the hospital by friends. A review of systems was noncontributory.

Examination.—The patient appeared to be well developed and well nourished. There was a yellow tint to the skin. The mucous membranes were pale. The tongue was smooth and showed loss of papillae along its margins. Neurologic examination revealed no abnormalities.

The temperature was 99.4 F., the pulse rate 90 per minute, the respiratory rate 21 per minute and the blood pressure 170 systolic and 80 diastolic.

The initial laboratory examination revealed that the urine was normal. The blood showed a hemoglobin of 40 per cent, 6.0 Gm., red cell count 1.3 million per cubic millimeter, white cell count 4,000, with a differential count of 46 polymorphonuclears, 51 lymphocytes, 2 monocytes and 1 eosinophil. The platelets numbered 90,000, reticulocytes 0.7 and the red cells showed anisocytosis, poikilocytosis and polychromasia. The fragility test of the red blood cells to hypotonic saline solutions showed that the control began at 0.435 per cent and was complete at 0.310, and the patient's blood began at 0.485 and was complete at 0.335 per cent. The hematocrit reading was 23 per cent, color index 1.59, volume index 1.9 and the mean corpuscular volume 177 cubic microns.

Chemical examination of the blood showed the urea nitrogen to be 21.8 mg. per hundred cubic centimeters, sugar 95 mg. per hundred cubic centimeters, total protein 6, albumin 4.2, globulin 1.8 and nonprotein nitrogen 32.8 mg. per hundred cubic centimeters. The icterus index was 8.

The sternal bone marrow smear showed hyperplastic bone marrow, with 7 megaloblasts and 42 per cent of nucleated cells in the red cell series.

Gastric analysis showed achlorhydria after histamine injection.

The stool showed no blood, ova, parasites or pathogens on culture.

The serologic tests were negative.

X-rays of chest, gastrointestinal series and barium enema showed no lesions.

The electrocardiogram was normal.

A diagnosis of addisonian pernicious anemia was made.

Course.—The patient was given 150 mg. of synthetic folic acid by mouth for one day. Oral administration was continued throughout the course. Three days later 100 mg. doses were started in two divided doses. Following this he was given 50 mg. for eight days and then 25 mg. daily for thirteen days. Subjective improvement was gradual and became definite about the eighth day after the initiation of synthetic folic acid therapy. An increase in the reticulocyte count was noted on the fourth day of folic acid therapy. A maximum reticulocyte response of 20 per cent was observed on the eleventh day of folic acid therapy. The white blood cell count rose from 4,000 to 6,500 in thirty days. The percentage of lymphocytes dropped from 51 to 40. The platelets remained at 110,000 per cubic millimeter during the period of observation.

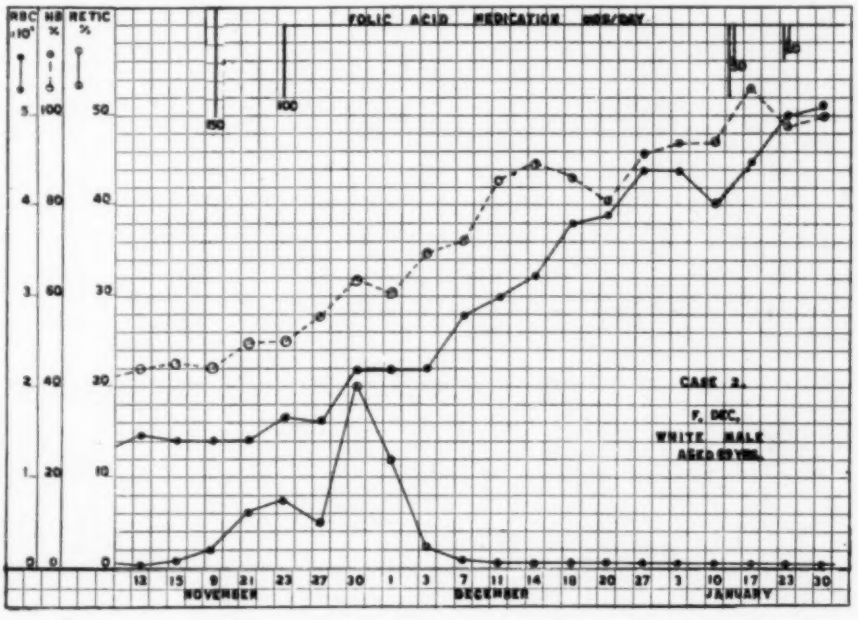

Fig. 2.—Red blood cells, hemoglobin and reticulocytes in case 2.

At the time of discharge the red blood cell count was 5.5 million per cubic millimeter, the hemoglobin 13.7 Gm., the white cells were 7,600, with 55 per cent polymorphonuclears, 3 per cent eosinophils, 38 per cent lymphocytes and 4 per cent monocytes. The patient was discharged from the ward on an estimated maintenance dose of 25 mg. daily after seventy-six days of folic acid therapy. He received 6.075 Gm. of the drug during the period of hospitalization and continues under observation at the Hematology Clinic.

The hemoglobin, erythrocytic and reticulocytic responses are plotted on figure 2.

CASE 3.—*History.*—R. U., a man aged 83, German, admitted Dec. 7, 1945, complained of weakness, anorexia and weight loss of two months' duration. His past, dietary and family

history was noncontributory. The present illness began with weakness and anorexia, both of which became progressively more advanced during the two months preceding admission. These were associated with a loss of 15 pounds (6.8 Kg.) in weight. A systemic review was noncontributory.

Examination.—The patient was thin and emaciated, and there was a lemon-yellow tint to the skin. The mucous membranes were pale, and the tongue was smooth and atrophic. Neurologic examination revealed diminished ankle and knee jerks bilaterally, with impaired vibratory sense throughout.

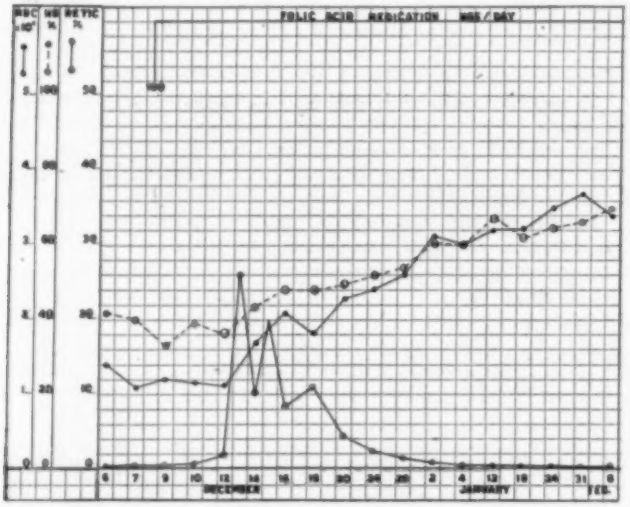

Fig. 3.—Red blood cells, hemoglobin and reticulocytes in case 3.

The temperature was 99 F., the pulse rate 84 per minute, respiratory rate 20 per minute and blood pressure 110 systolic, 70 diastolic.

Initial laboratory examination revealed that the urine was normal; no urobilin was present. The blood showed a hemoglobin of 40 per cent, 4.5 Gm., the red cell count was 1.4 million per cubic millimeter and the white cell count was 4,500, with a differential count of 64 per cent polymorphonuclear cells and 36 per cent lymphocytes. The platelets numbered 220,000, reticulocytes 0.2 per cent, hematocrit 16 per cent, volume index 1.6, color index 1.5, mean corpuscular volume 114 cubic microns. The red cells showed anisocytosis, poikilocytosis and moderate polychromasia.

Chemical analysis of the blood showed the icterus index to be 9, sugar 90 mg. per hundred cubic centimeters, urea nitrogen 26.7 mg. per hundred cubic centimeters, total proteins 5.9 mg., calcium 12.8 mg. per hundred cubic centimeters and phosphorus 4.4.

Smear of the sternal marrow showed hyperplastic bone marrow with 13 per cent megaloblasts and a total of 45 per cent nucleated cells in the red cell series.

Gastric analysis showed achlorhydria after histamine injection.

The stool was negative for blood.

X-ray of the chest, gastrointestinal series and barium enema were noncontributory.

The electrocardiogram showed left ventricular premature systoles.

A diagnosis of addisonian pernicious anemia was made.

Course.—The patient was given 100 mg. of synthetic folic acid in two divided doses daily for sixty-nine days. An increase in the reticulocyte count was observed on the third day of folic acid therapy. The maximum reticulocyte response (26 per cent) was noted on the sixth day of folic acid medication. The white blood cell count remained within normal limits throughout the period of observation. The platelets remained above 220,000. Considerable subjective improvement was noted on the seventh day of treatment. On the seventieth day of folic acid medication, and after the red blood cell count and hemoglobin had remained stationary for a period of thirty-five days, the dosage was changed to 20 mg. intramuscularly per day. The patient has received 2.220 Gm. of the drug to date. There has been definite subjective improvement and a gain in weight of 2½ pounds (1 Kg.).

The hemoglobin, red blood cell and reticulocyte response are plotted on figure 3.

Case 4.—*History.*—D. B., a woman aged 72, a widowed English actress, admitted Dec. 12, 1945, complained of intermittent fatigability and weakness of three years' duration, with anorexia, nausea and vomiting for three weeks prior to admission. Her past, family and dietary histories were noncontributory.

The patient was well until three years before admission (1942), at which time she became weak, lost weight and was hospitalized at another institution, where she was given a transfusion and parenteral liver therapy was instituted. She continued to take liver injections for six months, after which they were discontinued, following subjective improvement. She remained well for two years, until six months before admission, when she again became weak. A course of liver therapy lasting three months was given with considerable improvement. Eight weeks before admission she received one liver injection and some "iron pills," which she took for two weeks. Six weeks later, and three weeks before admission, she lost her appetite, became very weak, was nauseated and began to vomit. This was associated with mild recurrent attacks of watery diarrhea without blood or mucus, and occasional bouts of vague diffuse abdominal pain. Systemic review revealed that she had had tingling of her hands and feet for many years. There were no other findings of note.

Examination.—The patient was well developed, well nourished and pale, with a yellow tint to the skin. The mucous membranes were pale, and the tongue was smooth, showing loss of papillae along its borders. A soft systolic murmur was noted near the apex of the heart. Neurologic examination disclosed no changes.

The temperature was 100 F., respiratory rate 20 per minute, pulse rate 80 per minute and the blood pressure 150 systolic, 60 diastolic.

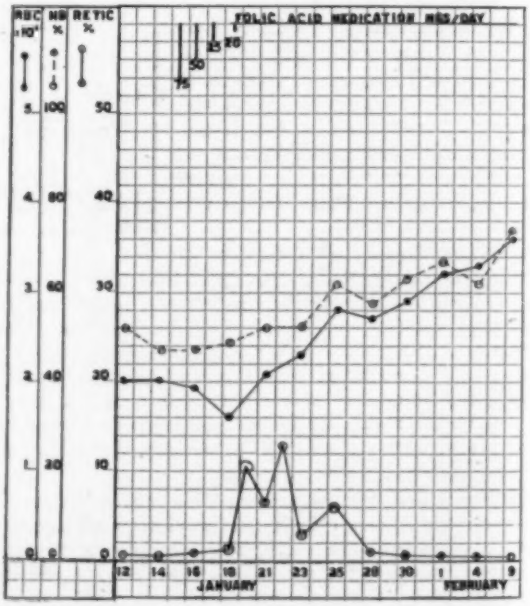

Fig. 4.—Red blood cells, hemoglobin and reticulocytes in case 4.

The initial laboratory examinations disclosed no abnormalities in the urine. The blood showed hemoglobin 50 per cent, 7.3 Gm., the red blood cell count was 2 million per cubic millimeter and the white blood cell count was 4,500, with 77 per cent polymorphonuclears, 20 per cent lymphocytes, 2 per cent monocytes and 1 per cent eosinophils. The platelets numbered 90,000, reticulocytes 0.2 per cent, hematocrit 21 per cent, color index 1.18, volume index 1.23 and mean corpuscular volume 110.5 cubic microns. The red cells showed moderate anisocytosis, poikilocytosis and polychromatophilia.

Chemical analysis of the blood showed urea nitrogen 9.5 mg. per hundred cubic centimeters, sugar 109 mg. per hundred cubic centimeters, bile index 11, total protein 6.1 mg., albumin 4.6, globulin 1.5 and nonprotein nitrogen 27 mg. per hundred cubic centimeters.

Smear of the sternal marrow showed hyperplastic bone marrow, with 17 megaloblasts and a total of 34 per cent nucleated cells in the red cell series.

Gastric analysis showed achlorhydria after histamine injection.

The stool showed no blood.

The serologic tests were negative.

X-ray of the chest showed no abnormality. X-rays of the gastrointestinal tract revealed diverticula of the duodenum and sigmoid colon.

The electrocardiogram showed ST changes with left ventricular strain.

A diagnosis of addisonian pernicious anemia was made.

Course.—The patient was given synthetic folic acid intramuscularly. She received 75 mg. the first day, 50 mg. the following day and 25 mg. the third day. The dose was reduced to 20 mg. intramuscularly on the fourth day. This has been continued during the period of observation. Subjective improvement was noted four days after therapy was instituted. An increase in the reticulocyte count was noted on the third day of folic acid therapy. The maximum reticulocyte response (13.1 per cent) was observed on the ninth day of folic acid therapy. The white blood cell count remained within normal limits throughout the period of observation. The platelets have risen from 90,000 to 250,000 in three weeks of folic acid therapy. A total of 750 mg. of folic acid has been given.

The red blood cell, hemoglobin and reticulocytic responses are noted on figure 4.

CASE 5.—*History.*—R. M., a white man aged 75, admitted Dec. 28, 1945, complained of urinary retention of four days' duration. The family history was noncontributory. His past history disclosed no previous illnesses. He presented a bizarre dietetic background with a diet consisting largely of shellfish and pickles, a dislike for red meat, and chronic anorexia. He had had frequent bouts of watery diarrhea without blood or mucus for twenty years. The systemic review was negative.

Examination.—The patient was emaciated and poorly developed and had a lemon-yellow tint of the skin. The tongue was beefy red and atrophic. The heart was slightly enlarged. An enlarged prostate was felt on rectal examination. Neurologic examination disclosed no changes.

The temperature was 98.7 F., respiratory rate 20 per minute, pulse rate 64 per minute and blood pressure 140 systolic, 80 diastolic.

The initial laboratory examinations showed that the urine was normal. The blood showed hemoglobin 60 per cent, 8.8 Gm., red blood cells 2.2 million per cubic millimeter and white cell count 4,150, with a differential count of 47 per cent polymorphonuclears, 51 per cent lymphocytes and 2 per cent eosinophils. The platelets numbered 330,000, reticulocytes 0.2 per cent, hematocrit 28, volume index 1.4, mean corpuscular volume 128 cubic microns and color index 1.3. The red blood cells showed decided anisocytosis, moderate poikilocytosis and slight polychromasia; many macrocytes were present.

Chemical analysis of the blood showed urea nitrogen 16.3 mg. per hundred cubic centimeters, sugar 90 mg. per hundred cubic centimeters, carbon dioxide 54 volumes per cent, total protein 6.7 mg., albumin 3.8, globulin 2.9, nonprotein nitrogen 28.8 mg. per hundred cubic centimeters, acid phosphatase 1.8 and alkaline phosphatase 2.5. The glucose tolerance test (oral) showed the fasting blood sugar to be 98 mg. per hundred cubic centimeters, sugar one hour after glucose 142, two hours after 125, three hours after 100 and four hours after 113 mg. per hundred cubic centimeters. All urine specimens were negative for sugar.

Smear of the sternal marrow showed 13 megaloblasts, with a total of 27 per cent nucleated cells in the red cell series.

Gastric analysis showed achlorhydria after histamine injection.

The stool showed no blood; the fat content of a twenty-four hour specimen was 27 per cent.

The serologic tests were negative.

X-ray examination of the chest and a gastrointestinal series were essentially normal. A barium enema revealed absence of haustral markings and loss of elasticity of the colon. The findings were reported as consistent with chronic colitis.

A diagnosis of addisonian pernicious anemia was made.

Course.—The patient was transferred from the urologic service when it was discovered that he had pernicious anemia. The initial treatment consisted in administering 75 mg. of synthetic folic acid intramuscularly. Following this he was given 20 mg. of folic acid intramuscularly daily for twenty-eight days. Subjective improvement was noted on the tenth day, when the patient volunteered the information that his appetite was better than it had ever been and that he could eat things that he had never eaten before in his life. An increase in the reticulocyte count was noted on the third day of folic acid therapy. The maximum reticulocytic response (10 per cent) was observed on the fifth day of folic acid therapy. The white blood cell count has remained within normal limits. He has received a total of 635 mg. of folic acid and remains in the ward on folic acid therapy.

The red blood cell, hemoglobin and reticulocyte responses are plotted on figure 5.

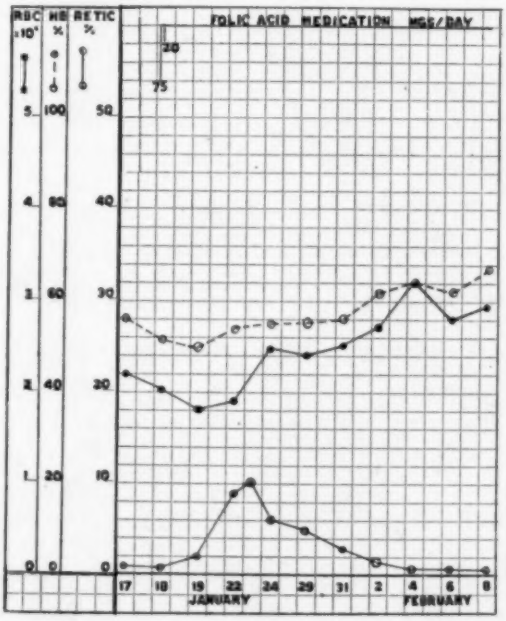

Fig. 5.—Red blood cells, hemoglobin and reticulocytes in case 5.

CASE 6.—*History.*—C. D., a Negro aged 64, a Pullman porter, admitted Jan. 6, 1946, complained of increasing weakness of two years' duration and of prostration for six weeks prior to admission. The past history was noncontributory. The family history revealed that he was a quadroon.

The patient noted the gradual onset of weakness in 1944, two years before admission. This was associated with mild epigastric distress without nausea, vomiting or diarrhea and was not associated with eating. He was able to work until six weeks prior to admission, at which time he became prostrated and was forced to remain in bed. Systemic review was noncontributory.

Examination.—The patient was extremely pale and very debilitated. The mucous membranes were pale. The tongue appeared normal, and, except for a short soft blowing systolic murmur heard over the apex of the heart, the physical examination was noncontributory. Neurologic examination was negative, and vibratory sense was intact.

The temperature was 100.6 F., respiratory rate 20 per minute, pulse rate 100 per minute and blood pressure 120 systolic, 85 diastolic.

The initial laboratory findings showed that the urine was normal and showed a negative reaction for urobilin and lead. The blood showed hemoglobin 28 per cent, 5.2 Gm., red blood

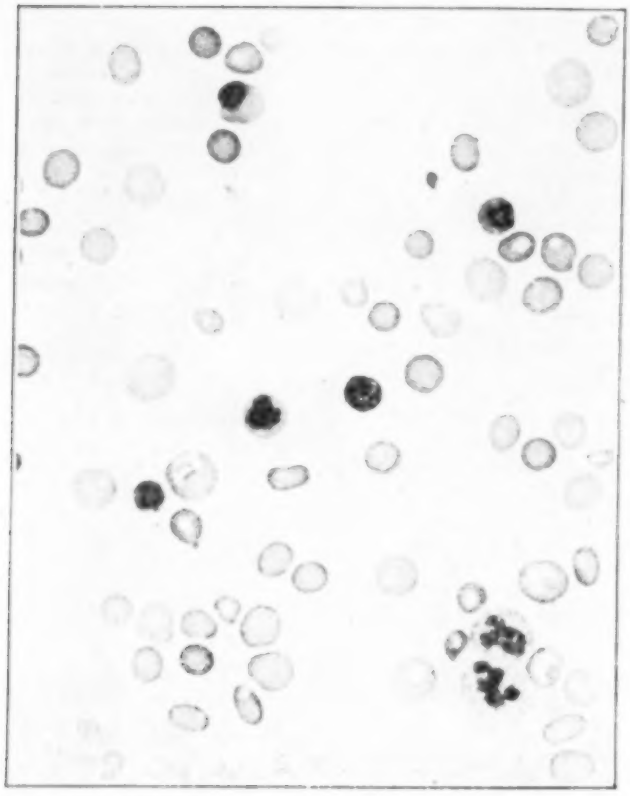

Fig. 6 (case 6).—Peripheral blood smear before folic acid treatment showing anisocytosis, poikilocytosis, variation in the staining properties of the red blood cells and nucleated erythrocytes. Reduced nearly one half from a photomicrograph with a magnification of 1,250 diameters.

Fig. 7 (case 6).—Peripheral blood smear on fourth day of folic acid treatment, showing reticulocytosis, basophilic stippling and variation in the staining qualities of the red blood cells. Reduced a little more than one half from a photomicrograph with a magnification of 2,500 diameters.

cell count 800,000 and white blood cell count 4,200, with a differential count of 69 per cent polymorphonuclears, 30 per cent lymphocytes and 1 per cent monocytes. The platelets numbered 60,000, reticulocytes 1.2 per cent, hematocrit 12 per cent, volume index 1.6, color index 1.7, mean corpuscular volume 150 cubic microns. The red blood cells showed moderate macrocytosis, decided anisocytosis, poikilocytosis and basophilic stippling; 62 per cent of all nucleated cells were normoblasts (fig. 6). No sickling tendency on smear or wet preparation was seen. The fragility of the red blood cells to hypotonic saline solution showed that the control began at 0.435 per cent and was complete at 0.335 per cent, and the patient's blood began at 0.410 per cent and was complete at 0.360 per cent.

Chemical analysis of the blood showed urea nitrogen 14.8 mg. per hundred cubic centimeters, sugar 123 mg. per hundred cubic centimeters, icterus index 10, total protein 5.4, albumin 3.7, globulin 1.7 and nonprotein nitrogen 30.5 mg. per hundred cubic centimeters.

Smear of the sternal marrow showed hyperplastic bone marrow, 10 megaloblasts and 34 per cent nucleated cells in the red cell series.

Gastric analysis showed achlorhydria after histamine.

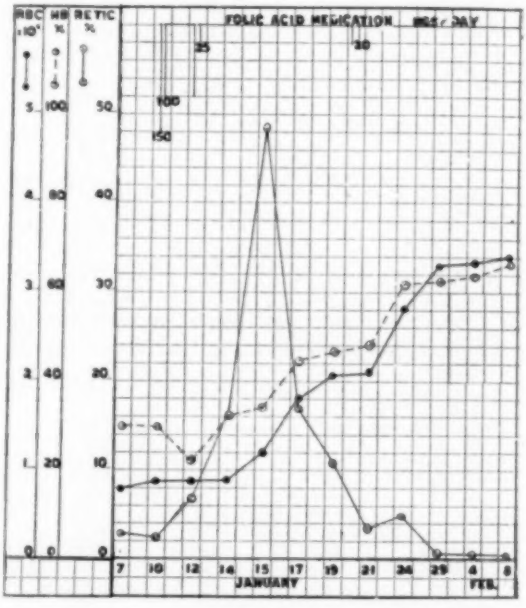

Fig. 8.—Red blood cells, hemoglobin and reticulocytes in case 6.

The stool contained no blood.

The serologic tests were negative.

X-ray studies of the chest, gastrointestinal series and barium enema failed to reveal changes.

The electrocardiogram was normal.

A diagnosis of addisonian pernicious anemia was made.

Course.—The patient was given 150 mg. of synthetic folic acid intramuscularly on the first day. The dose was reduced to 100 mg. intramuscularly on the second and third days. Following this he was given 25 mg. intramuscularly for ten days and 20 mg. daily thereafter for twenty-two days. A total of 1,040 mg. of folic acid has been given to date. An increase in the reticulocyte count was noted on the second day of folic acid therapy. The maximum reticulocyte response, 48.6 per cent, was observed on the fourth day (fig. 7). The white blood cell count rose from the admission level of 4,200 to a peak of 15,600 on the fourth day of therapy. The differential count remained normal throughout the course of observation. The platelets rose from 60,000 on admission to 220,000 in five weeks of therapy. Subjective response with improvement in appetite was noted on the fourth day after the start of therapy, and the patient has gained 12 pounds (5.4 Kg.) in five weeks of folic acid therapy.

The red blood cell, hemoglobin and reticulocyte responses are recorded on figure 8.

COMMENT

Any detailed comparison of the results obtained with synthetic folic acid and those obtained with liver is not warranted at present. The number of cases treated is too small; information regarding optimal dosage and mode of action of folic acid is too limited, and its ability to prevent the development of neurologic or other manifestations of addisonian pernicious anemia is unknown. Yet it may be of some interest to compare the results of these 6 cases with the standards for maximum reticulocyte response as established by Isaacs,[8] Spies,[4] Riddle[9] and Doan[10] and the red cell increase[11] as established by Isaacs and his associates for cases of addisonian pernicious anemia treated with intramuscular liver therapy.

TABLE 1.—*Results Compared with Standards for Maximum Reticulocyte Response as Established by Isaacs, Riddle and Doan*

Case	Initial Red Blood Cell Count, Millions Cu. Mm.	Reticulocyte Count at "Peak," per Cent	Maximum Expected Reticulocyte "Peak," per Cent on Liver Therapy		
			Isaacs	Riddle	Doan
1. K. P.	1.8	8.1	22.3	16	14
2. F. DeC.	1.3	20.0	30.1	26	22
3. R. U.	1.2	36.0	34.8	28	22
4. D. B.	2.0	13.0	19.0	14	14
5. R. M.	2.2	10.9	16.0	12	8
6. C. D.	0.8	48.6	46.0	41	35

Our reticulocyte responses were lower than the standard for maximum recticulocytic response after intramuscular liver therapy as established by Isaacs; however, the red blood cell count in each instance at the end of four weeks compares favorably with his figure for red blood cell increase after four weeks of liver therapy.

It is possible that our low reticulocyte responses may be explained on a technical basis, since previous writers have obtained more nearly expected reticulocyte responses using the wet technic for reticulocyte counts.[12]

Present information indicates that the L. casei factor (folic acid) cannot be chemically identified with the intrinsic factor of Castle.[13] As Moore[1] has pointed out, the possibility still exists that it may be related to the extrinsic factor of Castle.

TABLE 2.—*Comparison of Red Blood Cell Increase*

Case	Initial Red Blood Cell Count, Millions Cu. Mm.	Red Blood Cell Count 4 Weeks after Start of Folic Acid Therapy	Expected Red Blood Cell Count, Millions Cu. Mm.	Per Cent of Expected Red Blood Cell Count
1. K. P.	1.8	4.0	3.7	107
2. F. DeC.	1.3	3.4	3.5	97
3. R. U.	1.2	3.0	3.4	88
4. D. B.	2.0	3.5	3.8	92
5. R. M.	2.2	3.9	3.9	100
6. C. D.	0.8	3.8	3.3	115

It appears unlikely that the L. casei factor and the anti-pernicious anemia factor of liver are the same, since Clark[14] has demonstrated that various commercial preparations of liver extract contain only 0.25 to 0.5 microgram of the L. casei factor per cubic centimeter. Doses of folic acid required for hemopoietic response are considerably larger.

It will be noted, however, that since the introduction of liver therapy by Minot and Murphy[15] in 1926 no other substance available for clinical trial, besides stomach material, has produced a remission in addisonian pernicious anemia comparable to that obtained with synthetic L. casei factor (folic acid). Reticulocyte responses have been induced by using solution of potassium arsenite (Fowler's solution), wheat germ, autolyzed yeast, beef, eggs, rice polishings and congo red. Wintrobe[16] induced a temporary response with large amounts of brewers' yeast, but in no case do the results compare favorably with those obtained with liver, stomach preparations or synthetic folic acid.

Three additional cases are under observation. Patients 4 (D. B.) and 6 (C. D.) have been discharged to the Hematology Clinic.

SUMMARY

Clinical improvement and hematologic remission have been induced in 6 cases of addisonian pernicious anemia with various oral and parenteral doses of synthetic L. casei factor (folic acid).

8. Isaacs, R., and Friedman, A.: Standards for Maximum Reticulocyte Percentage After Intramuscular Liver Therapy in Pernicious Anemia, Am. J. Med. Sc. **196:** 718, 1938.

9. Riddle, M. C.: Pernicious Anemia, Arch. Int. Med. **46:** 417 (Sept.) 1930.

10. Doan, C. A.: Modern Medical Therapy in General Practice, Baltimore, Williams & Wilkins Company, 1940, p. 2903.

11. Isaacs, R.; Bethell, F. H.; Riddle, M. C., and Friedman, A.: Standards for Red Blood Cell Increase After Liver and Stomach Therapy in Pernicious Anemia, J. A. M. A. **111:** 2291 (Dec. 17) 1938.

12. Moore and others.[1] Spies, Vilter, Koch and Caldwell.[2] Doan and others.[3] Spies.[4]

13. Goodman, Louis, and Gilman, Alfred: The Pharmacological Basis of Therapeutics, New York, Macmillan Company, 1941, p. 1124. Pfiffner, J. J., and others: Isolation of Antianemia Factor (Vitamin Bc) in Crystalline Form from Liver, Science **97:** 404, 1943. Mitchell, H. K.: Folic Acid: Biologic Specificity, ibid. **97:** 442, 1943. Wright, L. D., and Welch, A. D.: Folic Acid: Production by Rat Liver in Vitro (Relation to Xanthopterin), ibid. **98:** 179, 1943.

14. Clark, G. W.: Vitamin Content of Liver Extracts for Parenteral Use: A Comparison of Crude and Concentrated Preparations, Am. J. M. Sc. **209:** 520, 1945.

15. Minot, G. R., and Murphy, W. P.: Treatment of Pernicious Anemia by a Special Diet, J. A. M. A. **87:** 470 (Aug. 14) 1926. Minot, G. R.; Cohn, E. J., and Lawson, H. A.: Treatment of Pernicious Anemia with Liver Extract: Effects on the Production of Immature and Mature Red Blood Cells, Am. J. M. Sc. **175:** 599, 1928.

16. Wintrobe, M. M.: The Antianemic Effect of Yeast in Pernicious Anemia, Am. J. M. Sc. **197:** 286, 1939.

Special Article

CHARTER FOR WORLD HEALTH

Closing Address Before the International Health Conference, New York, July 22, 1946

THOMAS PARRAN, M.D.
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Washington, D. C.

This has been a historic international health conference. Its success equals that of any comparable international gathering. This has been due to the outstanding ability of you, the delegates, who are the leaders of the world in public health and medicine and to the professional atmosphere and spirit of cooperation which have marked this month of arduous work.

The foundation of our work was laid by the Economic and Social Council last February in calling the conference and by the constructive work of its Preparatory Committee of Experts in Paris. It has been greatly aided by the excellence of the Secretariat which the United Nations has provided. To the Council, the Preparatory Committee and the Secretariat we express our deep appreciation.

The nations represented here today are signing a Magna Carta for health which will bring into being a world health organization unique in its scope, authority and functions. Its broad purpose is the attainment by all peoples of the highest possible level of health and well being. We are convinced that health is not merely

the absence of disease or infirmity but a state of complete physical, mental and social well being—the enjoyment of which we declare to be a fundamental right of every human being without distinction of race, religion, political belief or economic or social condition. We believe its attainment is essential for peace and security.

It is becoming clear that the health sciences can contribute to man's ability to live harmoniously in a changing total environment. Thus, improved health enhances standards of living, promotes economic prosperity, contributes to our total objective, which is peace. The fundamental freedoms can be realized only when people are healthy and well nourished.

In the field of health, nations are interdependent. Epidemics anywhere in the world are dangerous to other nations. Low standards of health lay a burden on prosperity and trade, imposing an economic handicap on every nation and on the world as a whole.

While the responsibility for health within its own borders is of primary concern to each nation, the success of each can be greatly enhanced through international teamwork. The world health center we are creating, therefore, should be the directing and coordinating agency to provide information, leadership and assistance in every phase of health work. Not only will the organization aid in disseminating and applying all the scientific knowledge we now possess to prevent disease and promote health, but it will encourage and conduct scientific research to forge more effective tools. Better remedies will be discovered. New preventives will be found. As a result there will be brought under better control many of the human ills which now take such a large toll in disability and death. Cancer, heart disease, mental illness and degenerative diseases, for example, are obvious targets for such international scientific endeavor.

Public health is a dynamic composite of many scientific disciplines. Through their application the average life span in the more advanced countries has been doubled during the past century. Yet progress has been very uneven in the different nations. In some countries, for example, one half of all children born do not reach their fifth birthday. The average life span is about half of that attained in the more fortunate nations.

Recently we have seen the miracles which can be accomplished by the sulfonamide drugs and penicillin, yet only a small proportion of the world's population has access to these remedies. For a large part of the world's people doctors and hospitals, in the modern sense, are virtually unknown. Even such an elementary requirement for health as an uncontaminated water supply is lacking over large areas of the earth.

To achieve the great objectives of the World Health Organization will require our best, our most persistent, efforts. But our efforts alone are not enough. We must bring to the rank and file of mankind—to the common man everywhere—an understanding and appreciation of the elements of health and a consuming desire to achieve it. Without this our signatures on a document here in New York will have little meaning. The World Health Organization, therefore, must be built for human service, must give practical help to the world's people, must undertake first things first.

During the past forty years our nations have acquired some experience in international health action first through efforts to prevent, through quarantine and through exchange of epidemic intelligence, pestilential disease from spreading between nations. During the years between the two world wars these efforts were broadened to include mutual help in disease control, training of health personnel, gathering valuable statistics and standardization of certain drugs and biologic products. During the war the United Nations pooled fully their military efforts to prevent disease. All of this experience will be useful to us in our tasks ahead.

The World Health Organization will be prepared to use all of our most modern scientific knowledge, our best tools, wherever needed to help heal the wounds of war and to eliminate the ancient human plagues, such as malaria and cholera, tuberculosis and syphilis. Prevention of disease is a first objective. But this is only a first step. Hunger and malnutrition stunt the bodies and warp the minds of a large part of the world's population. To attain freedom from want of food is another goal which we may hope to reach by pooling our nutritional knowledge with the food and agriculture efforts of the United Nations.

A next step toward world health is the positive improvement of health—of physical and mental fitness. Higher levels of physical development, a longer, more productive, more vigorous life span will be sought and attained.

To help reach these goals not only do we need to apply all the knowledge we now have for prevention, treatment and control of disease everywhere in the world but we need to conduct intensive research in the laboratory, at the bedside and in the field to push back the frontiers of the unknown in the health sciences.

These several measurable, scientific objectives are difficult but not impossible of attainment. Yet at our conference the practical scientists have not been content to stop at this point. We have an additional task.

Humane plans for world health go for naught unless the peoples of the world can learn to live together in peace. Never again can our world disintegrate into the insanity of another total war.

Public health experts realize that our science may be used either to save life or to destroy civilization. Whether science is to be used for good or for evil is not determined by scientists themselves. The same type of research worker may discover penicillin or atomic fission. It is the mass conscience of mankind—the dominance of the moral or the amoral—which determines whether research is to be used for life or death.

In our Magna Carta for health we have ventured to declare that we have a contribution to make to the central world problem of our day, which is to help man learn to live together harmoniously with his fellow man. In making this proposition I, for one, believe that health science must share the task with religion and education.

The science of mental hygiene is one of our newer disciplines, concerned with the human mind and emotions. Even in its present early stage of development it helps man adjust to his environment, to live in greater harmony with his family, his community, his world. This science of mental hygiene needs urgently to be developed and applied as a basic element in preventing war and destroying the seeds of war.

The World Health Organization is therefore a collective instrument which will promote physical and mental vigor, prevent and control disease, expand scientific health knowledge and contribute to the harmony of human relations. In short, it is a powerful instrument forged for peace.

We return to our homes knowing that we have done our best. We hope that history will record a job well done.

Clinical Notes, Suggestions and New Instruments

HYPERTHYROIDISM WITH MALIGNANT EXOPHTHALMOS

BYRON D. BOWEN, M.D.
and
GILBERT M. BECK, M.D.
Buffalo

M. P., an Italian foreman aged 59, was first admitted to the Buffalo General Hospital on May 21, 1940 and discharged on June 15. He had considered himself well until eighteen months before admission, when he began to have nosebleeds. His physician told him that he had high blood pressure. A few months later a tremor of the left hand and leg developed which became progressively worse, so that at the time of admission it had reached a stage of uncontrollable violence. It was said that it often disappeared completely during sleep and that it was aggravated by anything which upset him. There was no loss of muscle power. About eight months before admission he began to lose weight in spite of a good appetite. This loss reached 40 pounds (18.1 Kg.).

He was moderately emaciated and had almost continuous, forceful, violent, rhythmic tremors of the entire left arm and leg; the left side of the trunk was also involved somewhat. His facies showed some loss of expression. There was a fine tremor of the left side of the face and a slight tremor of the right arm. There was considerable rigidity of the entire left side. The deep tendon reflexes were all hyperactive but equal bilaterally. The pupils were dilatated (probably the result of the scopolamine which he had been receiving); they reacted to light and in accommodation. The external ocular movements were normal, and there was no exophthalmos. The retinal arteries were smaller than the veins, but at no points were the veins compressed. The skin was always moist, and frequently it was covered with a dripping perspiration. The thyroid gland was not palpable. The apical cardiac impulse was easily seen in the nipple line, where there was a soft systolic murmur which could be heard only in that area. The basal sounds were accentuated and the blood pressure was 185 systolic and 98 diastolic. The oral temperature was never elevated, although shortly after admission the rectal temperature reached 100 F. on several occasions. The pulse rate varied between 90 and 105.

The examination of two morning specimens of urine revealed specific gravities of 1.019 and 1.023; both were alkaline and showed neither albumin or sugar nor abnormal constituents in the sediment. The red blood cells numbered 4,700,000 per cubic millimeter and the hemoglobin was 90 per cent. The white blood cells numbered 6,700, which were 13 per cent staffs, 63 per cent filaments, 19 per cent lymphocytes and 5 per cent monocytes. Four specimens of feces showed no occult blood. The blood serum and spinal fluid Wassermann reactions were negative.

He was treated with complete rest in bed, a full diet, increasing amounts of scopolamine hydrobromide given six times a day and sodium amytal at night. Four days after admission an unsuccessful attempt was made to get an estimation of his postabsorptive metabolism. However, on June 1 fairly regular graphs of his metabolism were achieved which, when computed, showed it to be plus 53 per cent; this was not an accurate reading, as tremors continued throughout the determination. On June 2 the administration of Lugol's solution 0.3 cc. three times daily was started, and on June 6 this was increased to 0.6 cc. and continued until June 10, when it was omitted. On June 12 the basal metabolic rate was plus 19 per cent at a time when the tremors were still present but less violent. His weight during this period increased from 120 to 131 pounds (54.5 to 59.5 Kg.) on discharge. His pulse rate dropped about 10 beats per minute. He was sent home to the care of his private physician to continue medication with the scopolamine and the Lugol's solution.

The patient was again hospitalized from July 10 to Aug. 27, 1940. It was learned that the medication with Lugol's solution had been discontinued about two weeks before this admission but that the scopolamine had been kept up as prescribed. Toward the latter part of June prominence of the left eye had been noted. This had increased quite rapidly. The tremor had become much worse and now involved the head. Examination at this time showed the rectal temperature to be 101 F. The pulse rate ranged between 100 and 120. The blood pressure was 200 systolic and 110 diastolic. There was bilateral exophthalmos, more decided on the left. He could not close his eyes during sleep, and, as a result, exposure keratitis developed with secondary conjunctivitis. His thyroid gland was not palpable.

There was a steady increase in the exophthalmos, and finally there was sloughing of both corneas. Conjunctival-corneal plastic operations and also tarsorraphy were attempted. After failure of these two procedures to reduce the exophthalmos, a small piece of perforated rubber tubing was inserted under the conjunctiva beginning at the inner canthus extending under the conjunctiva outward close to the inferior rectus muscle to a point of exit near the external canthus. These were done by Dr. Ivan Koenig.

Shortly after admission the patient had a chill on two consecutive days, after which his rectal temperature rose to 103 and 104 F. respectively. After this some rales and bronchovesicular breathing developed at the bases of both lungs. Culture of his sputum showed a few hemolytic streptococci but no pneumococci. Cultures of blood taken during these chills proved to be negative. The white blood cell count, which had been normal on admission, rose to 17,000 and later to 21,000 per cubic millimeter. The polymorphonuclears remained at about 90 per cent with an extreme shift to the left. He was treated with 0.25 per cent sulfapyridine in a 5 per cent dextrose solution administered intravenously and also with the sulfapyridine by mouth, when he could take it. During this period the sulfapyridine levels of the blood had been maintained at from 5 to 11 mg. By August 3 his temperature had dropped to nearly normal; the white blood cell count had reduced to 11,000 per cubic millimeter, but the polymorphonuclears were 85 per cent with an extreme shift to the left. An orbital decompression had been considered, but by the time he had sufficiently recovered from the respiratory infection the eyes were beyond redemption, and he was almost blind. About this time it was first noted that there was considerable atrophy of the muscles of the shoulders, which had occurred even though his food intake had been large. Medication with Lugol's solution 0.3 cc. three times a day had been continued since admission. On August 8 an attempt was made to estimate his basal metabolic rate. This was plus 66 per cent. Following this quantitative determinations of the creatine in urine excretion were estimated for two successive twenty-four hour periods; they were 1.14 and 1.72 Gm. respectively. The creatinine excretion was 1.5 Gm. for each of the two periods. On August 9 a subtotal thyroidectomy was done by Dr. J. S. Regan under pentothal sodium administered intravenously and local anesthesia with metycaine hydrochloride. A remnant about the size of one's little finger was left in.

The pathologic report was made by Dr. Kornel Terplan. On macroscopic examination, the weight of the specimens was 25 Gm. The sizes were 4 by 2.5 by 1.2 cm. and 4 by 1.8 by 1 cm. The consistency was firm. On section, diffuse parenchymatous hyperplasia was observed. The surfaces were grayish pink. The impression (from gross examination) was that of hyperthyroidism. Microscopic examination revealed a slightly atrophic appearance with well preserved lobular pattern. The individual lobules consisted of rather small follicles and contained different types of colloid. The lining of the follicles was low columnar epithelium, mostly compressed; none of the cells were high columnar. There were no papillary elevations. There were a number of atypical large nuclei, some of which were

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desquamated while others were within follicles which were in part undifferentiated. The struma was edematous. There were no lymph follicles, no collections of lymphocytes or lymphocytic infiltrates. The histologic picture present was not that of hyperthyroidism except for the presence of the large atypical nuclei.

Following the operation the patient was given a blood transfusion of 500 cc. This was followed by 3,000 cc. of 5 per cent dextrose solution, 1,000 cc. of which was in isotonic solution of sodium chloride administered intravenously during the first twenty-four hours. Also 1 Gm. of sodium iodide was given intravenously for two successive postoperative days. His course was steady, and even though his temperature was elevated for several days (102 to 104 F.) his pulse rate remained at about 100 per minute. His blood pressure varied from 200/110 to 155/90. On August 18 a quantitative determination of the creatine in urine excretion was 0.56 Gm. and the creatinine was 1.4 Gm. On August 22 the basal metabolic rate was plus 29 per cent; he then weighed 136 pounds (61.7 Kg.), 5 pounds (2.3 Kg.) more than his preoperative weight. At that time he had considerable tremor. However, by August 27 the tremor had reduced appreciably. His basal metabolic rate on that day was plus 13.5 per cent. The creatine excretion during the twenty-four hours before discharge was 0.1 Gm., the creatinine 1.5 Gm.

He was seen again on Nov. 6, 1940. He then weighed 148 pounds (67 Kg.); his blood pressure was 145/90. The tremor had disappeared, as had the muscular atrophy. Eventually there was ulceration of both corneas and perforation. One eye was enucleated and the other became atrophic.

The patient was not seen again, but it was learned that he had died in July 1943 following a cerebral hemorrhage, after which he had lived for five days. His weight had gone up to 180 pounds (81.6 Kg.). His tremor had not reappeared.

SUMMARY

A patient with atypical but unequivocal hyperthyroidism presented the symptoms of unilateral paralysis agitans which overshadowed the probability of associated or related thyrotoxicosis. Exophthalmos, which was absent at first, subsequently became fulminating and destroyed the eyes in a very short period. Muscular atrophy which was associated with creatinuria was a distinct feature of the abnormal conditions observed.

After the patient had been given iodine, the removal of a normal sized thyroid gland resulted in improvement in that the patient gained weight and the muscular atrophy promptly disappeared, as did the creatinuria. Most striking and unexpected, however, was the result that after several months the paralysis agitans-like tremor also ceased.

The eyes were irretrievably lost even before it would have been possible to perform an orbital decompression delayed because of complicating pneumonia. Subsequently one eye had become enucleated and the other atrophied.

The patient died three years later of cerebral hemorrhage or thrombosis.

No comparable case has been found in the literature, although the association of muscular atrophy, creatinuria and hyperthyroidism is well known.[1]

1. Ayer, J. B.; Means, J. H., and Lerman, J.: Simulation of Progressive Muscular Atrophy by Exophthalmic Goiter, Endocrinology **18:** 701-704 (Nov.-Dec.) 1934.

The Early Microscopists.—The microscope, which enabled Malpighi to complete the work of Harvey, was probably known to the ancients, although the evidence is inconclusive. In its earliest form it consisted of a simple biconvex lens. Roger Bacon first suggested the use of lenses as spectacles, and a simple lens was used by Malpighi and also by Leeuwenhoek. It was Zacharias Jansen, a spectacle maker of Middelburg in Holland, who about the year 1609 accidentally discovered the principle of the telescope and microscope by placing two lenses together in a tube. Galileo turned this invention to practical use, but the instrument remained merely a toy for some years.—Guthrie, Douglas: A History of Medicine, Philadelphia, J. B. Lippincott Company, 1946.

Council on Physical Medicine

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MEDIQUARTZ COLD ULTRAVIOLET LAMPS MODELS #500 & #600 ACCEPTABLE

Manufacturer: Dallons Laboratories, 5066 Santa Monica Boulevard, Los Angeles 27.

The Mediquartz Cold Ultraviolet Lamp is an ultraviolet generator of the low pressure or cold quartz variety. Model 500 is identical with Model 600 except for having a single grid on the body lamp. The spectrum indicated that this lamp is characteristic of the cold quartz and predominates in radiation of wavelength 2,537 angstroms.

This equipment appears to be well designed and carefully constructed and has a distinctly professional appearance. An electrical time switch is provided by which exposures may be timed up to four and one-half minutes.

The body applicator weighs about 4.3 pounds (1.9 Kg.). It has brightly polished metal on the inside and black baked enamel on the outside. The inside of the reflector supports an aluminum burner plate which is 26 cm. (10.3 inches) in diameter. The burner tube is coiled in a flat hexagonal spiral of fused quartz 8 mm. in diameter and having an exposed length of 200 cm. (79 inches).

Model No. 600

The orificial unit consists of a twin bore quartz tube 15.5 cm. (6.1 inches) long and tapered from 4 mm. to 7 mm. in diameter mounted in a molded plastic handle which completely encloses the electrode chambers and the attachment plug. It may be operated with the power selector switch set for "Orificial" or "Body Grid." However, the latter setting is not desirable, as it will then produce perceptible erythema on untanned skin in only one second. There is also some tendency for the handle to become hot if the apparatus is operated for over fifteen minutes. This lamp contains a second grid of equal length which is made of corex, and one or the other tube may be operated separately or together.

The power consumption on 120 volts alternating current is a maximum of 90 watts using both grids, and a minimum of 10 watts using the orificial unit on the low power.

The firm reported that sixty measured exposures were made on untanned abdominal skin, ambient temperature 68 F., skin light, normal, dry and cool.

			A	B
Quartz grid only	24	inches burner to skin....	90 seconds	100 seconds
Corex grid only	24	inches burner to skin....	160 seconds	180 seconds
Both grids only	24	inches burner to skin....	60 seconds	70 seconds
Orificial only	0	inches burner to skin....	4 seconds	5 seconds

Column A represents the time in seconds to produce a barely perceptible erythema. No erythema was produced by exposures of lesser time.

Column B represents the time in seconds to produce a definitely perceptible erythema which endured for several hours or longer.

The lamp was referred to a clinic acceptable to the Council for investigation, and it was reported as a good cold quartz type of lamp which would do therapeutically anything that can be expected from this source of radiation.

The Council on Physical Medicine voted to include the Mediquartz Cold Ultraviolet Lamps, Professional Models #500 & #600, in its list of acceptable devices.

MEDIQUARTZ COLD ULTRAVIOLET LAMP NO. 400 ORO-DERM ACCEPTABLE

Manufacturer: Dallons Laboratories, 5066 Santa Monica Boulevard, Los Angeles 27.

The Mediquartz Cold Ultraviolet Lamp, Model No. 400 Oro-Derm, is a low pressure or cold quartz type ultraviolet lamp. It has a grid of fused quartz 7 mm. (0.28 inch) in diameter and 46 cm. (18.1 inches) long in the form of a flat spiral. This grid is supported by a flat burner plate 7.5 cm. (2.96 inches) in diameter. The body applicator, weighing 300 Gm. (10.5 ounces), consists of a metal reflector 9.5 cm. (3.74 inches) in diameter.

The orificial unit consists of a twin bore quartz tube 15.5 cm. (6.11 inches) long and tapered from 4 mm. (1.58 inches) in diameter to 7 mm. (0.28 inch) in diameter mounted in a molded plastic handle. The spectrogram submitted shows the characteristic spectrum of a cold quartz generator. In other words, there is a predominance of the radiation of line 2,537 angstroms.

The firm submitted a laboratory report on the radiation characteristics which in the opinion of the Council is satisfactory. For the body applicator a minimum perceptible erythema was obtained in nine seconds at a distance of 6 inches. The orificial unit produces a minimum perceptible erythema in five seconds at the surface of the tube. The lamp is well constructed, and its appearance is distinctly professional.

It is equipped with an electrical time switch for which exposures may be timed up to four and one-half minutes. Power consumption at 120 volts alternating current at a maximum is 24 watts for the body grid applicator and a minimum of 10 watts for the orificial unit.

The Council on Physical Medicine recommended that the Mediquartz Cold Ultraviolet Lamp Model No. 400 be included in the list of acceptable devices.

Council on Pharmacy and Chemistry

NEW AND NONOFFICIAL REMEDIES

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its actions will be sent on application.

AUSTIN SMITH, M.D., *Secretary.*

ALUMINUM HYDROXIDE GEL (See New and Nonofficial Remedies, 1945, p. 398).

The following dosage form has been accepted:

THE RESERVE RESEARCH CO., CLEVELAND

Aluminum Hydroxide Gel: 360 cc. bottles. Contains 5.5 per cent of aluminum hydroxide (equivalent to 3.6 per cent of aluminum oxide) and, as a flavoring agent, oil of peppermint.

PHENOBARBITAL SODIUM (See New and Nonofficial Remedies, 1945, p. 524).

The following additional dosage form has been accepted:

ABBOTT LABORATORIES, NORTH CHICAGO, ILL.

Phenobarbital Sodium *(Powder):* 0.324 Gm. in 2 cc. ampuls.

NIKETHAMIDE (See New and Nonofficial Remedies, 1945, p. 345).

The following dosage form has been accepted:

THE NATIONAL DRUG CO., PHILADELPHIA

Solution Nikethamide 25% W/V: 2 cc. and 5 cc. ampuls and for oral use 15 cc. and 120 cc. bottles with 0.5 per cent chlorobutanol added as a preservative.

NICOTINAMIDE (See New and Nonofficial Remedies, 1945, p. 618).

The following additional dosage form has been accepted:

INTERNATIONAL VITAMIN CORPORATION, NEW YORK

Tablets Niacin Amide: 100 mg.

THIAMINE HYDROCHLORIDE (See New and Nonofficial Remedies, 1945, p. 610).

The following additional dosage form has been accepted:

INTERNATIONAL VITAMIN CORPORATION, NEW YORK

Tablets Thiamine Hydrochloride: 3 mg.

Council on Industrial Health

ROCKY MOUNTAIN REGIONAL INDUSTRIAL HEALTH CONFERENCE

One hundred physicians, industrialists and community leaders attended a one day Regional Industrial Health Conference sponsored by the Council on June 4 in Denver. Local arrangements for the meeting were made by the Colorado State Medical Society, of which Mr. Harvey Sethman is Executive Secretary.

The presiding chairman of the morning program was Dr. R. G. Howlett, Chairman, Committee on Industrial Health, Colorado State Medical Society. Medical Director J. G. Townsend, Chief, Division of Industrial Hygiene, U. S. Public Health Service, Washington, D. C., presided at the afternoon session. Both presiding officers in introducing their sessions stressed the importance and value of maintaining on a high level the health and productive efficiency of American workers. It was mentioned that relationships these days on the industrial scene are changing rapidly; persons interested in industrial health promotion and health in industry should on return to their community endeavor to bring together the doctor, the community leader and the industrialist for frank discussions of mutual interest.

The morning program was devoted to medicine in industry. Mr. Howard Strong, Secretary, Health Advisory Council, Chamber of Commerce of the United States, opened with "What Industry Expects of Medicine." Dr. Victor Heiser, Consultant, Committee on Industrial Health, National Association of Manufacturers, read a paper entitled "Practical Benefits of Industrial Health Service." Following came "Coming Events in Industrial Health in the Rocky Mountain Area" by J. J. Bloomfield, Senior Sanitary Engineer and Assistant Chief, Industrial Hygiene Division, U. S. Public Health Service.

Dr. A. J. Lanza, Associate Medical Director, Metropolitan Life Insurance Company, New York City, moderated the morning panel discussion "Better Industrial Health Service in States." The discussion was very lively, and numerous questions were raised from the floor. These had to do with basic matters of medical ethics, standards of industrial medical procedure, employer-employee education, health surveys and questions pertaining to status and relationships.

The afternoon session included a series of four short reports:

1. "National Workmen's Compensation Conference Board" by Dr. C. M. Peterson, Secretary, Council on Industrial Health, American Medical Association.
2. "Legislation" by J. W. Holloway Jr., Director, Bureau of Legal Medicine and Legislation, American Medical Association.
3. "Progress Toward Specialization" by Dr. C. M. Peterson.
4. "Industrial Health, Rural Health and the Program for General Medical Care" by Thomas A. Hendricks, Secretary, Council on Medical Service and Public Relations, American Medical Association.

Dr. Henry H. Kessler of Newark, N. J., moderated the afternoon panel discussion "Rehabilitation and Reemployment Both of the Veteran and of the Disabled Civilian." Assisting him were Dr. Donald A. Covalt, Medical Director, Office of Medical Rehabilitation, Veterans Administration; Dr. Atha Thomas, Chairman, Committee on Rehabilitation, Colorado State Medical Society; Dr. Victor H. Vogel, Chief Medical Officer, Office of Vocational Rehabilitation, Washington, D. C., and Mr. Harold C. Corpening, Regional Representative, Office of Vocational Rehabilitation, Federal Security Agency, Denver.

The program was closed with the showing of "Doctor in Industry" (General Motors' Production).

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SATURDAY, AUGUST 10, 1946

VITAMIN REQUIREMENTS OF ALCOHOLIC ADDICTS

In 1935 Pappenheimer and his associates [1] of Columbia University studied in detail the gastric ulcers commonly found in rats placed on artificial diets. These gastric lesions vary from elevated round or oval disks with a pin point central erosion to deep hemorrhage craters 7 mm. or more in diameter. With control rats on adequate stock diets, such ulcers are never found in more than 1 per cent of the cases. Pappenheimer found that among 112 rats on various deficiency diets 68 developed ulcers, an incidence of approximately 61 per cent. The highest incidence was among young rats placed on a diet designed for the experimental production of rickets, 86 per cent of them developing severe gastric erosions by the end of thirty-five days.

Attempts to determine the essential deficiency factor responsible for these lesions proved inconclusive. The addition of 2 per cent cod liver oil to the rickets-producing diet prevented rickets but did not reduce the percentage of gastric ulcers. The fact that rats on such diets tend to eat hair and that hair fragments are occasionally found embedded in the ulcers led to the belief that mechanical irritation caused by abnormal ingestion of hair might be a contributory factor.

A more definite conclusion was afterward reported by Fridericia and his associates.[2] These investigators placed large groups of rats on a diet low in vitamin A and in tocopherol (vitamin E). By the end of ten to fifty-three weeks 80 per cent of these rats had developed gastric ulcer. In a control group of rats fed the same diet with butter fat which contained vitamin A, substituted for oxygenated lard, the incidence of gastric ulcer was but 18 per cent. The investigators concluded from this that vitamin A deficiency was the principal factor causing gastric ulcers in rats. Lack of vitamin E or of some other unknown factor presumably played a secondary role.

1. Pappenheimer, A. M., and Larimore, L. D.: J. Exper. Med. **40**: 719, 1934.
2. Fridericia, L. S.; Gudponsson, Skuli; Vimtrup, B.; Clemmesen, S., and Clemmesen, Johannes: Am. J. Cancer **39**: 61 (May) 1940.

Practical applications of these conclusions are now reported by Jensen [3] of the Post Nutritional Offices, Fort Knox, Ky., as a by-product of his study of the effects of alcohol plus nutritional deficiency. He found that rats placed on a diet containing an inadequate amount of vitamin A increased in weight, on an average, 64 Gm. in forty-eight days. Sixty-seven per cent of these rats developed gastric ulcer during the same time. By adding 0.5 mg. of tocopherol daily to this deficiency diet the average gain in body weight was increased to 79 Gm. and the incidence of gastric ulcer reduced to zero. The addition of alcohol to this diet reduced the rate of body growth by 30 to 50 per cent. Alcohol rendered tocopherol much less effective, 10 per cent of the alcoholic rats developing gastric ulcer in spite of multiple therapeutic doses of vitamin E. Jensen interprets his results as evidence of increased vitamin requirements of alcoholic addicts.

IMMUNIZATION WITH THE VOLE BACILLUS

The vole bacillus is a relatively recent bacteriologic discovery, isolated by Wells [1] in 1937. Previously Griffith had said that tuberculosis in warm blooded animals living in a wild state was unknown. In 1941 Brooke,[2] a co-worker of Wells at the Sir William Dunn School of Pathology, University of Oxford, England, published his results of a two year study of its properties. Morphologically the vole strain was found to be different from any of the previously described tubercle bacilli; hook shaped, S shaped, circular and semicircular forms are not characteristic of any of the other tubercle bacilli. The discovery by Wells of the occurrence of epidemic disease in wild field voles in regions fenced off from domesticated animals argues against the concept that the etiologic agent is a tubercle bacillus of bovine or human origin. Brooke and Day [3] confirmed the statement of Wells that the vole strain is a distinct type of tubercle bacillus, although it cannot be differentiated from the human and bovine types by serologic methods. Studies of Griffith,[4] Wells and Brooke demonstrated that the vole bacillus is highly pathogenic only for the vole. In this animal it produces a slowly progressive disease with predominant subcutaneous lesions resembling somewhat rat leprosy. The bacillus causes localized lesions in cattle, hamsters, guinea pigs, rabbits and white rats without progressive systemic disease unless overwhelming doses are used.

3. Jensen, J. L.: Science **103**: 586 (May 10) 1946.
1. Wells, A. Q.: Tuberculosis in Wild Voles, Lancet **1**: 1221 (May 22) 1937.
2. Brooke, W. S.: The Vole Acid Fast Bacillus, Am. Rev. Tuberc. **43**: 806 (June) 1941.
3. Brooke, W. S., and Day, R.: Immunization with the Vole Acid Fast Bacillus Against Experimental Tuberculosis, Bull. Johns Hopkins Hosp. **74**: 275 (May) 1944.
4. Griffith, A. S.: The Cultural Characters and Pathogenicity for Some Laboratory Animals of the Vole Strain of Acid Fast Bacillus, J. Hyg. **42**: 527 (Oct.) 1942.

Wells and Brooke [5] demonstrated that vaccination of guinea pigs with the vole bacillus prior to infection with virulent mammalian tubercle bacilli gives a degree of protection which is far greater than has been thus far recorded by other means. These authors compared the degree of protection conferred by the preliminary vaccination of guinea pigs with the vole acid fast bacillus and with BCG to subsequent infection with human and bovine tubercle bacilli. Eleven weeks after infection with human or bovine tubercle bacilli 11 of the animals which had been vaccinated with the vole bacillus either did not have macroscopic lesions or else had only a small local abscess; 4 animals showed early signs of generalized disease. The animals which had been vaccinated with BCG all showed generalized disease, though less advanced than the controls.

This interesting work of the Oxford investigators, interrupted because of war conditions, was continued in Norway by Birkhaug.[6] The Norwegian workers repeated the experiments carried out by their Oxford colleagues on guinea pigs, working with a culture of vole acid fast bacillus sent to them by Wells. They have carried out the suggestion of their English colleagues to leave all the experimental animals for eighteen months, or as long as they survive, and have found that the effect of vaccination of guinea pigs with the vole acid fast bacillus and BCG on a subsequent tuberculous infection is equally potent and of a high protective order.

The next step contemplated is vole bacillus vaccination in man.

VIRUS BLOCKADE THERAPY

In 1929 McKinney [1] observed that plants infected with tobacco mosaic virus resist infection with a variant strain of homologous virus. Numerous other examples of both homologous and heterologous interference between plant viruses were subsequently reported. Six years later similar interference phenomena were reported between animal viruses. Hoskins,[2] for example, found that in monkeys a neurotropic strain of yellow fever virus blocks a concurrent infection with a viscerotropic strain of the same virus. Dalldorf [3] observed a reciprocal "sparing effect" between poliomyelitis virus and that of lymphocytic choriomeningitis. Jungeblut and Sanders [4] demonstrated a similar interference between simian and murine poliomyelitis viruses. Such interference between animal viruses has been demonstrated not only in intact animals but in tissue cultures [5] and in embryonated eggs.[6]

The possibility of practical application of virus interference therapy was suggested by Ziegler,[7] who found that an influenza A or B virus rendered noninfective by ultraviolet irradiation was capable of inhibiting the multiplication of active influenza virus. The most successful application of virus blockade therapy thus far demonstrated is the prevention of fox distemper currently reported by Green [8] and his associates of the University of Minnesota.

Green attenuated canine distemper virus by sixty-four serial splenic transfers in ferrets. By the fiftieth passage the virus had an extremely high virulence for ferrets but had almost completely lost its pathogenicity for dogs and foxes.[9] Even on intracerebral injection this attenuated ("distemperoid") virus failed to produce demonstrable symptoms in dogs.

In order to test its possible therapeutic value, 30 red fox pups were inoculated intranasally with fully virulent distemper virus accompanied or followed by a similar instillation with attenuated virus. A group of 10 control pups were inoculated with the distemper virus alone. All control animals became ill by the sixteenth day and died between the twenty-fifth and the thirty-sixth day. Of 10 fox pups which received the attenuated virus simultaneously with the virulent inoculation, only 5 showed slight symptoms by the twenty-third day. All were fully recovered by the thirty-first day. Of the 10 animals that received the attenuated virus three days after virulent inoculation only 2 showed slight symptoms by the twenty-third day. All were fully recovered by the thirty-first day. Of the 10 animals that received the attenuated virus twelve days after virulent inoculation 5 showed symptoms by the twenty-third day. All were fully recovered by the thirty-second day.

In a second experiment 40 young foxes were injected intramuscularly in groups of 10 with the same highly virulent strain of virus, preceded, accompanied or followed by a similar intramuscular injection with the attenuated virus. All untreated control animals were seriously ill by the seventeenth day and dead by the thirtieth day. None of the animals given the attenuated virus three days previous to the virulent injection developed symptoms. One death occurred among the 10 animals given the two viruses simultaneously, and 9 deaths among the 10 in which the therapeutic injection was delayed for three days.

Green saw in these results confirmation of his belief that the effectiveness of "cell blockade" therapy is determined by the rates at which the two viruses seed essential tissues. The virulent infection can be "blocked off" by the attenuated virus only if the attenuated virus is given before or at the same time as the virulent

5. Wells, A. Q., and Brooke, W. S.: The Effect of Vaccination of Guinea Pigs with the Vole Acid Fast Bacillus on Subsequent Tuberculous Infection, Brit. J. Exper. Path. **21**: 104 (April) 1940.
6. Birkhaug, K.: Immunization with the Vole Bacillus, Am. Rev. Tubere. **53**: 411 (May) 1946.
1. McKinney, H. H.: J. Agric. Rev. **39**: 557, 1929.
2. Hoskins, M.: Am. J. Trop. Med. **15**: 675, 1935.
3. Dalldorf, G.: J. Immunol. **37**: 245, 1939.
4. Jungeblut, C. W., and Sanders, M.: J. Exper. Med. **72**: 407, 1940; **76**: 127, 1942.
5. Andrews, C. H.: J. Path. & Bact. **50**: 227, 1940.
6. Ziegler, J. E., Jr., and Horsfall, F. L., Jr.: J. Exper. Med. **79**: 361, 1944.
7. Ziegler, J. E., Jr.; Lavin, G. I., and Horsfall, F. L., Jr.: J. Exper. Med. **79**: 379, 1944.
8. Green, R. G., and Stulberg, C. S.: Proc. Soc. Exper. Biol. & Med. **61**: 117; Science **103**: 497, 1946.
9. Green, R. G.: Am. J. Hyg. **41**: 7, 1945.

infection. Jungeblut [10] had previously found that in monkeys his murine virus had a distinct protective effect only if given at the same time or soon after intracerebral inoculation of the animals with the virulent strain. If this is generally true, virus blockade therapy will presumably have limited practical applications.

Current Comment

DEHYDRATION PLEURITIS

The phenomenon of tissue dehydration continues to arouse interest as a causal or contributing factor in many clinical syndromes. Armanino and Ory [1] have shown that pleural injury with fibrinous exudate as judged by respiratory pain and friction rub may occur as one of the complications of dehydration in diabetic precoma. While cultures of the pleural exudate were not made, the absence of fever and the prompt disappearance of pain and friction rub on rehydration indicate that the authors were dealing with a so-called sterile pleuritis in which the relative lack of interpleural and intrapleural liquid played an important part. Doubtless a review of old necropsy records of the preinsulin era may disclose negative cultural results of fibrinous serous exudates in the severely dehydrated patient. Infection, of course, is not a sine qua non of the inflammatory reaction. Cell necrosis is all that is needed; dehydration should be sufficient in some cases to produce death of pleural mesothelial cells. The process of reaction and repair includes the laying down of fibrin. With water and electrolyte balance restored, the visceral and parietal pleural surfaces would be normally separated and restoration of the intact serous membrane quickly achieved. The abdominal pain so frequent in diabetic acidosis may reflect a peritoneal injury based on a similar hypothesis. An "aseptic" pericarditis has frequently been noted in fatal cases of chronic nephritis. The broad classification of chronic nephritis into two main types, nephritis with edema and nephritis without edema (Christian), suggests that the nephritis with dehydration due to increased permeability of the kidneys to water while withholding toxic nitrogenous products, offers conditions for cell injury in loci where movement of surfaces requires lubricating liquid. The pericarditis in chronic nephritis might be so explained. Another possible site exists in joint membranes where the synovial fluid may be so depleted in dehydrating conditions that the synovial cells are injured; if weight is applied, a "dry" arthritis ensues. Some arthropathies, in the light of the work of Armanino and Ory, need careful appraisal of the role that dehydration may play in their pathogenesis.

10. Jungeblut, C. W.: J. Exper. Med. **81**: 275, 1945.

1. Armanino, L. P., and Ory, E. M.: Acute Pleurisy as a Dehydration Phenomenon in Diabetic Precoma, Am. J. M. Sc. **211**: 597 (May) 1946.

HAZARDS OF THE MEDICAL USES OF RADIATION

In a comprehensive review of the medicolegal aspects of the damage that may result from exposures to roentgen rays, radium and other radioactive substances Dunlap [1] in *Occupational Medicine* describes well the hazards connected with radiation under different conditions. Radiation may damage tissue by direct injury to cells and by impairment of the local circulation. For unknown reasons the changes in the tissues become evident some time—weeks or months—after exposure, taking a chronic, slowly progressive course with decrease in healing power and in resistance to infection. Dunlap lists the most important specific types of injury from radiation under the heads of dermatitis, induction of cancer, necrosis of bone, gastroenteritis, changes in the blood and blood-forming organs, sterility and injury to the fetus. Dermatitis is the commonest unfavorable reaction and may follow diagnostic, therapeutic and occupational overexposure. The carcinogenic effect of radiation is almost wholly limited to the induction of carcinoma of the skin. Under certain conditions sarcoma of bones may develop from the absorption of radioactive particles, and the suspicion exists that leukemia may occur more frequently in radiologists than in other comparable groups of persons. Anemia, leukopenia, thrombocytopenia and other changes in the blood may develop after heavy irradiation of large parts of the body and in poorly protected workers in radiology. Heavy radiotherapy of abdominal tumors may cause serious chronic injuries of the intestine and less frequently of the stomach. "Sterility is a major occupational hazard of both male and female radiologists but can be avoided by proper observance of protective measures." A child exposed to radiation in the uterus may suffer serious malformations, but there is no evidence that exposure to radiation of either parent before conception can hurt the child. Dunlap points out that, while nonmedical uses of radiation may present the hazard of overexposure, most actual injuries have resulted from the improper use of radiation in medical diagnosis and treatment. "Well trained specialists in radiology seldom burn themselves or their patients, and a high proportion of the serious injuries result from the use of radiologic equipment by physicians, surgeons and dermatologists who have a limited understanding of the dangers involved. Any licensed physician regardless of his training may employ roentgen rays and radium in his practice, a situation which has been compared to a general permission to practice medicine with liability only in case of injury. It seems as though some legal restriction might properly be established to limit the use of roentgen rays and radium to persons familiar with their potentialities for good and for evil." Here comes also the question of the liability of the physician who treats cases of curable cancer with ineffective doses of radiation.

1. Dunlap, C. E.: Medicolegal Aspects of Injuries from Exposure to Roentgen Rays and Radioactive Substances, Occup. Med. **1**: 237 (March) 1946.

MEDICINE AND THE WAR

VETERANS

DISCUSS PROGRAM FOR TRAINING CLINICAL PSYCHOLOGISTS

Representatives of eighteen universities recently met with Veterans Administration officials to discuss the program for training critically needed clinical psychologists who help veterans solve their mental and emotional difficulties. The university representatives endorsed the Veterans Administration requirement that key clinical psychologists should have a doctor's degree in psychology.

The group worked out minimum requirements and standards which will be used in training the initial 200 students in clinical psychology. These students will be working for their doctor's degree while helping sick veterans. Applications should be made to the cooperating schools, which will make the selections subject to final approval by the Veterans Administration. Preference is given to veterans.

Officials said that Veterans Administration hospitals and mental hygiene clinics could use all the trained clinical psychologists in the nation and that the Veterans Administration training program was undertaken, in part, to help fill this vital need.

The university representatives also recommended that Public Law 293, 79th Congress, which set up a Veterans Administrative department of medicine and surgery, be amended to include clinical psychologists in the same legal and professional status as doctors, dentists and nurses. They also wanted the Veterans Administration to offer positions for interns and residents in clinical psychology. Residencies in medicine are now being offered in more than a third of the Veterans Administration hospitals. Internships are permitted but are not being offered doctors yet.

The schools, all of which have been approved for graduate work by the American Psychological Association, included California at Berkeley and at Los Angeles, Chicago, Illinois, Kansas, Kentucky, Michigan, Minnesota, Pennsylvania, Pittsburgh, Rochester, Columbia, State University of Iowa, Ohio State, New York University, Southern California, Stanford and Yale.

Although Northwestern University and Pennsylvania State College are approved schools by the American Psychological Association, they did not send delegates because it is unlikely that they will be able to accept any new trainees under the Veterans Administration program.

VETERANS' APPOINTMENTS

Dr. Bernard S. Klauber, formerly of New York, recently accepted an appointment in the Department of Medicine and Surgery of the Veterans Administration as assistant chief of the Neuropsychiatric Service, Kennedy General Hospital, Memphis, Tenn.

ARMY

ARMY AWARDS AND COMMENDATIONS

Major Stirling G. Pillsbury

Major Stirling G. Pillsbury, Long Beach, Calif., was recently awarded the Army Commendation Ribbon. The citation accompanying the award read: "By direction of the Secretary of War and in accordance with the provisions of Circular 377, WD, 1945, you are hereby authorized to wear the Army Commendation Ribbon for your high degree of professional ability displayed in your capacity as chief of the outpatient and obstetric and gynecology branch of the AAF Regional and Convalescent Hospital, Coral Gables, Fla., for the years 1944 and 1945. The outpatient service consisted of two clinics, one operated in the Glades Hotel, Miami Beach, and one at the Biltmore Unit, Coral Gables, Fla. These units operated six days a week, saw on the average 200 patients a day and employed on the average six doctors. It was also your duty, not only to carry your personal load as the obstetrician and gynecologist, but also to supervise this large and very busy service. You personally, as one of four obstetricians, delivered on the average 35 babies a month throughout your service at Coral Gables Hospital, which extended over a period of two years. You personally operated and were responsible for all gynecologic operations performed on female military personnel and dependents. The morbidity and mortality rates for your service were far below the standards set by the American Medical Association and you deserve commendation for this fact alone. Your duties as attending surgeon required twenty-four hours on call over this extended period. It is to your credit that you were always available for the many emergencies which arose and gave so unstintingly of your time and knowledge for the benefit of mankind. The results you obtained speak for themselves and are a matter of official record. It is also to your credit that you were able to organize this vast service into a well molded organization which was able to perform this tremendous task with such excellent results." Dr. Pillsbury graduated from Harvard Medical School, Boston, in 1923 and entered the service March 27, 1943.

Captain Edward T. Cicione

Capt. Edward T. Cicione, Philadelphia, was recently awarded the Silver Star and the Bronze Star. He was also awarded the Combat Medic Badge. The citation accompanying the Silver Star award read "for gallantry in action in Germany on March 15, 1945, in connection with military operations against an enemy of the United States. On March 16, 1945 Captain Cicione commanded a medical team which at great risk gained entrance into Weiskirchen, Germany, which the enemy was bitterly defending. For thirty-six hours he operated on and treated the injured, disregarding the severe fighting being waged around him. Needing medical supplies, he forced his way into an enemy held building and obtained the needed material for continuing his work. Captain Cicione's courage, perseverance and sincere devotion to duty saved many lives in the engagement and exemplify the highest traditions of the armed forces of the United States."

The citation accompanying the Bronze Star specified "meritorious achievement in Germany on March 28, 1945 in connection with military operations against an enemy of the United States. Near Rambach, Germany, while administering aid to a wounded comrade severe enemy fire was directed at Captain Cicione and the casualty. By exposing himself to divert the hostile fire, Captain Cicione was able to alleviate the heavy fire on his comrade and later evacuate him. His courage and devotion to duty reflect great credit on himself and on the armed forces of the United States." Dr. Cicione graduated from the Hahnemann Medical College of Philadelphia in 1941 and entered the service July 24, 1942.

Captain Paul Michael

Capt. Paul Michael, Oakland, Calif., was recently commended by Secretary of the Navy James Forrestal "for outstanding service as chief of the laboratories service, United States Naval Hospital, Oakland, Calif., from June 25, 1942 to Feb. 26, 1944." The citation accompanying the award went on to say that, "reporting for duty during the early part of the construction period of the hospital, Commander Michael furnished valuable information in the building and equipping of

the laboratories and supervised the organization of the laboratory service. Devoting tireless efforts to extensive study and research, he recognized and later demonstrated that the unique conditions found in numerous patients returning from the South Pacific areas indicated an early form of filariasis, furnished information on which to base policies for the handling of troops in infected areas, recommended methods of prevention and thereby aided in reducing to a minimum the loss of manpower from that disease. Acting as reception officer, Commander Michael met all transports entering the port of San Francisco with casualties, supervised their care and expeditious evacuation to the various hospitals in the Bay area and thereby added much to the comfort and welfare of those patients. His perseverance and zealous devotion to duty reflect the highest credit on Commander Michael and on the United States Naval Service." Dr. Michael graduated from McGill University Faculty of Medicine, Montreal, in 1928 and entered the service Dec. 16, 1941.

Colonel Joseph F. Sadusk Jr.

The Legion of Merit was recently awarded to Col. Joseph F. Sadusk Jr., New Haven, Conn., the citation accompanying the award stating "For exceptionally meritorious conduct in the performance of outstanding services in the Southwest Pacific Area and Japan from June 28 to Nov. 23, 1945. As executive officer, United States of America Typhus Commission, which was attached to the Office of the Chief Surgeon, General Headquarters, United States Army Forces, Pacific, Colonel Sadusk displayed unusual professional capacity in rendering expert advice on matters of preventive medicine and resourcefully prepared numerous directives prescribing methods for minimizing the incidence of communicable diseases. Serving as preventive medicine officer for the chief surgeon in the advance echelon of general headquarters in Japan, he speedily and skilfully established methods for the effective control of the spread of disease and was instrumental in the preparation of medical directives issued to the Japanese government by the Supreme Commander, Allied Powers. Through his comprehensive technical knowledge, sound judgment and unremitting devotion to duty, Colonel Sadusk made a conspicuous contribution to the expeditious occupation of Japan." Dr. Sadusk graduated from Johns Hopkins University School of Medicine, Baltimore, in 1935 and entered the service March 30, 1942.

Lieutenant Colonel Leo Victor Schneider

An Oak Leaf Cluster to the Army Commendation Ribbon was recently awarded to Lieut. Col. Leo Victor Schneider, chief tuberculosis consultant for the U. S. Military Government in Germany for "outstanding and meritorious service from Oct. 25, 1945 to April 19, 1946." The citation read, in part, "Through your unrelenting and persistent efforts and by application of your thorough knowledge and training, the necessary organization for the resumption of effective case finding, isolation and treatment of tuberculosis by the German health authorities has been reestablished. Your initiative, diligence and devotion to duty have accomplished results which reflect great credit on yourself and on the Army of the United States. In your capacity as consultant to the United States member of the Allied Health Committee you have, through your tact and diplomacy, greatly facilitated the work of the United States government and have helped create a spirit of friendliness and cooperation between the four powers now occupying Germany." Dr. Schneider graduated from Donskoy University, Russia, in 1920 and Johns Hopkins University School of Hygiene and Public Health in 1934 and entered the service Oct. 3, 1942.

Lieutenant Colonel Daniel G. Gill

The Army Commendation Ribbon was recently awarded to Lieut. Col. Daniel G. Gill, Senior Surgeon (R), U. S. Public Health Service, for outstanding achievement in the administration of the Medical Division of the Selective Service System in Alabama. According to the citation accompanying the award, "As medical officer and chief of the medical division of Alabama state headquarters of the Selective Service System from Nov. 1, 1943 to Sept. 2, 1945 Lieutenant Colonel Gill supervised the medical activities of more than 600 uncompensated civilian doctors and dentists who served as medical advisory board members and as local board examiners. He also planned and operated the medical survey program in the state of Alabama and by his efficient administration of these and other duties brought distinction to himself and honor to the Selective Service System." Dr. Gill graduated from the University of Toronto Faculty of Medicine in 1922 and has been in the United States Public Health Service since Nov. 1, 1943.

Colonel Arthur G. King

Col. Arthur G. King, Cincinnati, was recently awarded the Bronze Star "for meritorious service in connection with military operations against the enemy from Nov. 12, 1942 to Nov. 22, 1943, according to the citation accompanying the award. "As surgeon of the Service Command at New Caledonia and later at Espiritu Santo, he organized the surgeon's office at the time activation of the service command at each of these places and displayed outstanding ability in the subsequent coordination of all medical activities and sanitation on each island. His sound technical advice was invaluable during the construction of two hospitals, and the positive measures instituted to insure that all military personnel observed rules of sanitation contributed materially to effective malaria control and to the reduction of the sick rate with a consequent increase in the morale of troops. The tireless energy, initiative and devotion to duty displayed by Colonel King reflect great credit on himself and on the military service." Dr. King graduated from Harvard Medical School, Boston, in 1930 and entered the service Aug. 3, 1941.

Lieutenant Colonel Harold T. Little

Lieut. Col. Harold T. Little, surgeon of the Alaskan department, was recently awarded the Legion of Merit "for exceptionally meritorious conduct in the performance of outstanding services during the period Aug. 5, 1944 to June 7, 1946. As assistant surgeon and later as surgeon, Alaskan department," the citation accompanying the award stated, "Colonel Little displayed outstanding initiative, ingenuity and professional ability. He worked tirelessly and aggressively to improve the surgical and medical treatment for military and civilian personnel of the Alaskan department. As a result of his thorough professional knowledge, sound judgment and foresight all medical installations of the Alaskan department were planned and operated in keeping with the highest standing of the Army Medical Corps. Colonel Little's services reflect great credit on himself and the military service." Dr. Little graduated from Northwestern University Medical School, Chicago, in 1937 and entered the service March 10, 1939.

Captain George W. Melchior

Capt. George W. Melchior, formerly of Richmond, Va., was recently awarded the Army Commendation Ribbon by Major Gen. Leland S. Hobbs, Post Commander, Fort Dix, New Jersey, for "exceptionally meritorious service" in the x-ray department at that station from June 1945 to April 1946. Captain Melchior "exhibited outstanding professional and administrative ability and vigilant and unceasing devotion to duty" in order to accomplish a heavy workland resulting from separation activities at that post. Dr. Melchior graduated from the Medical College of Virginia in 1942 and entered the service Oct. 7, 1944.

Colonel Robert Van Batterton

Col. Robert V. Batterton, Rawlins, Wyoming, was recently awarded the Bronze Star for meritorious achievement in support of military operations against the enemy during his service as colonel in the U. S. Army Medical Corps. The citation accompanying the award stated that, "as commanding officer of the 373d station hospital, Colonel Batterton contributed laregly to the excellent care and extremely low death rate of casualties received from the Iwo Jima and Okinawa campaigns. When the hospital was undergoing construction and facilities were wholely inadequate, he was unusually successful in the solution of difficult problems in administration, professional care of casualties and morale. His outstanding qualities of leadership and the personal example set by him during this period resulted in the saving of many lives." Dr. Batterton graduated from Northwestern University School of Medicine, Chicago, in 1933 and entered the service April 10, 1941.

Colonel Irving Sherwood Wright

The Army Commendation Ribbon was recently awarded to Col. Irving Sherwood Wright "for meritorious service as consultant in internal medicine, Office of the Service Command Surgeon, Headquarters Ninth Service Command, from Feb. 9, 1945 to Jan. 2, 1946." The citation states that "through his superior professional skill and diagnostic ability, his keen evaluation of medical officers and untiring devotion to duty, Colonel Wright contributed in an outstanding degree to the care of patients in this service command, to the accurate determination of the physical condition of a large number of recovered American military personnel and to the highly efficient assignment of medical officer specialists to hospitals in this command." Dr. Wright graduated from Cornell University Medical College, New York, in 1926 and entered the service Sept. 16, 1942.

Major George E. Montgomery

Major George E. Montgomery, Rochester, Minn., was recently awarded the Bronze Star for meritorious service in the face of enemy action during the parachute invasion of Normandy on June 6, 1944. He received the Military Order of Willem from the Netherlands government for participation in the airborne assault in the Netherlands in September 1944 and the Belgian Fourragere with his regiment for their part in the battle of the Bulge in the Ardennes Forest in December 1944. Dr. Montgomery also was awarded the Bronze Invaders Arrowhead, the Combat Medical Badge and the qualified Parachutists Wings. He graduated from the University of Minnesota School of Medicine, Minneapolis, in 1942 and entered the service Aug. 1, 1942.

Major James R. Gay

Major James R. Gay was recently awarded the Bronze Star "for meritorious service in connection with military operations . . . European Theater, from Sept. 1, 1944 to April 13, 1945. Major Gay displayed an unusually high degree of initiative, industry and sound judgment in obtaining and converting hospital sites in the Paris area; his efforts resulted in the establishment of four general, two station and one convalescent hospitals . . . and contributed greatly to the speed and efficiency of the Medical Service."

Dr. Gay also received the Medal of the French Reconnaissance from General de Gaulle, president of the Provisional Government of the French Republic, "for exceptional services of war rendered in the course of the operations for the liberation of France."

Dr. Gay graduated from Johns Hopkins University School of Medicine, Baltimore, in 1939 and entered the service in January 1942.

Captain Lewis B. Posner

The Army Commendation Ribbon was recently awarded to Capt. Lewis B. Posner, New York, "for meritorious service as assistant to the Port Surgeon, Port Surgeon's Division, Boston Port of Embarkation, from March 1944 to December 1945." The citation stated that "throughout this period Captain Posner consistently demonstrated a high degree of technical proficiency, keen initiative and extreme devotion to duty, thereby contributing greatly to the highly efficient functioning of his division at this installation." Dr. Posner graduated from the New York University College of Medicine, New York, in 1929 and entered the service Sept. 21, 1942.

MISCELLANEOUS

HOLD PUBLIC HEALTH CONFERENCE IN CHINA

The first public health conference to be held in China in the past ten years took place in the Assembly Hall of the Supreme Headquarters of the Chinese army, April 20. Lieut. Col. Merrill Moore, Nanking Headquarters Command, United States Army Forces, China, cooperated with Gen. Ho Ying-chin, Supreme Commander of the Chinese armies, and Major Gen. Robert B. McGuire, commanding general of the Nanking Headquarters Command, U. S. A. F., China, in organizing the program. Most of the papers presented were in Chinese.

The paper which was read by Colonel Moore, "A Natural Method of Mosquito Control," recommended the culture and distribution of gambusias, 5,000 of which were procured to start a fish farm in the suburbs of Nanking. They are being distributed to school children in baskets, who place them in ponds and streams all over the city.

China's program of general sanitation, which was actively started by the national government, also includes the demolition of rats, with which the city is infested.

MEDICAL AND SURGICAL RELIEF COMMITTEE

The Medical and Surgical Relief Committee (420 Lexington Avenue, New York 17) recently sent to Ospedale Civile Grosseto Hospital, Grosseto, Italy, a supply of insulin, lextron and quinine. This community is located in one of the worst malarial regions in Italy and its main hospital lacks the drugs with which to treat malaria.

APPOINTMENT OF PROFESSOR ANIGSTEIN AS SPECIAL CONSULTANT

Dr. Ludwik Anigstein, associate professor of preventive medicine, University of Texas Medical Branch, has been appointed special consultant in epidemic and nutritional diseases for the United Nations Relief Administration. He has been given a leave of absence for four months in order to make a trip to Poland to survey nutritional and epidemic conditions there and to give a series of postgraduate courses for Polish physicians on the diagnosis and management of epidemic diseases. While in Poland he will also give a series of lectures to the medical students at the six medical schools now functioning in Poland.

AWARDS AND COMMENDATIONS

Dr. Edward W. McNamara

Dr. Eward W. McNamara, Chicago, has been presented with the Meritorious Civilian Service Award. According to the citation accompanying the award, "as an employee relations officer in the Civilian Personnel Division of the Chicago Ordnance District, Ordnance Department, ASF, he has done an outstanding job in bringing about a better working relationship between the Chicago Ordnance District and its civilian employees through increased morale and reduction of absenteeism. He has installed systems of employee contact and follow-up that have been of intestimable value to the Chicago Ordnance District." Dr. McNamara graduated from Loyola University School of Medicine, Chicago, in 1937.

Brigadier General W. Lee Hart

The degree of Doctor of Humanistic Letters, an old award rarely presented but given mainly for high ideals and service to humanity, was recently given by the Southwestern Medical Foundation, Dallas, Texas, to Brig. Gen. W. Lee Hart, recently retired from the Army Medical Corps after nearly forty years of service. The award was made at the annual commencement of the medical college and was granted to General Hart ". . . because of noble achievements and distinguished public service. . . ."

Dr. Maxwell E. Lapham

Dr. Maxwell E. Lapham, Dean of the Tulane University of Louisiana School of Medicine, New Orleans, was presented with a certificate of merit by President Truman at the White House for his activities as executive officer of the National Procurement and Assignment Service.

PHYSICIANS SEPARATED FROM SERVICE

ARMY MEDICAL CORPS OFFICERS RECOMMENDED FOR/OR RELIEVED FROM ACTIVE DUTY

Alabama

Atkinson, William J. Jr.....Mobile
Hardie, George A.....Auburn
Hubbard, Thomas B. Jr....Montgomery
Johnson, Gayle T.....Mobile
Kahn, Edward.....Tuscaloosa
Levy, Samuel A.....South Birmingham
Locke, William W....South Birmingham
McCoy, Walter C.....Birmingham
McCullough, George C.....Birmingham
Matthews, Clifford N.....Florala
Mertins, Paul S. Jr.....Montgomery
Patton, William B.....Birmingham
Roberts, Albert L.....Tuscaloosa
Royal, Arnold.....South Birmingham
Smith, Alan P.....Tuskegee
Williams, Joshua W.....Tuskegee

Arizona

Jarrett, Paul B.....Phoenix

Arkansas

Barros, Chris.....Fort Smith
Broadhead, William C.....N. Little Rock
Burrow, William H.....Little Rock
Calaway, William H.....Batesville
Hardeman, Daniel R. Jr.....Little Rock
Holt, Leslie Gordon.....Little Rock
Sessoms, William D.....N. Little Rock
Stathakis, John.....Little Rock
Whittaker, Louie A. Jr.....Fort Smith
Woods, Jesse B.....Hot Springs

California

Atkinson, Ray C.....Oakland
Ayers, Robert L.....Penngrove
Becker, Walter N.....Sacramento
Bell, Dudley P.....Piedmont
Beswick, John W.....San Francisco
Birnbaum, Walter D.....San Francisco
Bissell, Charles L.....Los Angeles
Buckley, Daniel N.....San Francisco
Burns, George C.....Compton
Corlette, Marvin B.....Pasadena
Custer, Clarence P.....Stockton
Daitch, Morris B.....Los Angeles
Damron, Milton H.....Huntington Park
Davis, Alvin E.....Los Angeles
Dybdahl, Gerhardt L.....Richmond
Elkins, Harry K.....Santa Monica
Ellefson, Olley D.....Sanger
Ellenburg, Robert L.....Los Angeles
Fraleigh, John P.....Laguna Beach
Gardner, William C.....South Pasadena
Griffith, William H.....Los Angeles
Hafiz, Fred J.....San Francisco
Henderson, Emmett E.....San Jose
Herrmann, Walter W.....Grass Valley
Heppner, Myer J.....San Francisco
Hollombe, Samuel M.....Los Angeles
Holt, C. Zeno.....Los Angeles
Hopkins, Thorne.....Fresno
Hubbard, Milton E.....Los Angeles
Hume, Wayne S.....Pasadena
Iverson, Jesse J.....San Francisco
Johnson, James C.....Glen Dale
Jones, Orion C.....Santa Maria
Jourdan, Harve W.....Los Angeles
Kerber, Harry E.....Glendale
Kimura, Jiro.....Berkeley
Knott, James I.....San Diego
Krause, Albert H.....San Diego
Lack, Arthur R. Jr.....San Jose
Leonard, Carl D.....San Jose
Lewis, Thomas T.....Bakersfield
Levitt, Harry.....Hollywood
McGovney, Richard B.....Santa Barbara
McGowan, Donald O.....Los Angeles
McReynolds, Chester C.....Alhambra
Magee, Thomas L. II.....San Francisco
Makower, Melvin L.....Berkeley
Marians, Abraham.....San Gabriel

California—Continued

Marks, Max.....Seal Beach
Martin, Purvis L.....San Diego
Mason, Verne R.....Los Angeles
Massell, Theodore B.....Los Angeles
Mayer, Harry J.....Los Angeles
Merkel, Emil E.....Los Angeles
Motchan, Louis A.....Los Angeles
Nanninga, Tjaart R.....San Diego
Nasatir, Azor V.....Los Angeles
Norton, William I.....Oakland
Osell, Levin N.....Bakersfield
Palevsky, Samuel N.....San Diego
Parkinson, Stanley R.....Marysville
Parkinson, Wallace B.....Porterville
Pizer, Marvin I.....Los Angeles
Rea, Walton J.....Ukiah
Robinson, Saul J.....San Francisco
Robson, George B.....San Francisco
Rose, William D.....San Francisco
Rosenberg, Ralph.....San Francisco
Satterlee, Albert H.....Los Angeles
Schwartz, Irving.....San Francisco
Sokol, Archer J.....Los Angeles
Sokol, Louis I.....Los Angeles
Spiers, Donald W.....Los Angeles
Volante, Anthony J.....Santa Monica
Wade, Robert S.....Santa Anz
Wayburn, Edgar.....San Francisco
Weinberger, Howard J....San Francisco
Wise, Ernest E.....Pasadena
Wood, Avery E.....Watsonville

Colorado

Anderson, Martin E. Jr.....Denver
Barnes, Broda O.....Denver
Bumgarner, Frank E....Manitou Springs
Cash, Aeneas P.....La Junta
Chessen, James.....Denver
Cribari, George P.....Salida
Filmer, George A.....Denver
Fowler, Freeman D.....Idaho Springs
Frosh, Alvin J.....Denver
Milton, Lee B.....Denver
Sherman, Joseph H.....Denver
Thomas, Owen F.....Sterling
Vaughan, Kendall B.....Boulder
Wilson, William J.....Greeley
Wollgast, George F.....Denver

Connecticut

Anderson, Albert B.....Hartford
Fuldner, Russell V.....New Haven
Goebel, Clarence J.....Newington
Hathaway, John S.....New Haven
Hockmuth, Lloyd N.....New Britain
Luria, Sidney B.....Waterbury
Mekrut, Joseph A.....Meriden
Murcko, William J.....Torrington
Romansky, Monroe J.....Hartford
Seibert, Alfred F.....Berlin
Smith, William F.....Hartford
Tunick, George L.....Greenwich
Whiting, Herbert S.....Hartford

Delaware

Nydegger, Robert C.....Dover
O'Donnell, Edward T.....Wilmington
Parvis, Edward S.....Wilmington
Platt, David.....Wilmington

District of Columbia

Bailey, William O. Jr.....Washington
Baird, John H.....Washington
Barber, Clifford A.....Takoma Park
Bryant, Percy A.....Washington
Camalier, Caleb W. Jr.....Washington
Conolly, Edmund B.....Washington
Hayes, Dean M.....Washington
Haynes, Grady O'F.....Washington
Horn, John E.....Washington
Jarman, William D.....Washington

District of Columbia—Continued

Knott, William L.....Washington
Lapin, Alfred R.....Washington
Lee, Robert E.....Washington
Levine, Jack L.....Washington
Miller, Clarence L.....Washington
Zinzi, Francis L.....Washington

Florida

Annis, Jere W.....Lakeland
Boyd, Charles W.....Jacksonville
DeArmas, Charles R.....Tampa
Drohomer, Peter A.....Daytona Beach
Galin, Jack.....Jacksonville
Garcia, Louis J.....Tampa
Hancock, John O.....Tampa
Hildebrand, Carl H. Jr.....Miami
Hoskins, William H.....Venice
James, Lorenzo Jr.....W. Palm Beach
Kingsbury, Lawrence H.....Orlando
Klapman, Martin J.....St. Petersburg
Levin, Alfred G.....Miami
Love, Cecil E.....Lakeland
McClary, George R.....Miami
McClosky, Ben M.....Tampa
Malone, Bert H.....Jacksonville
Mangiuelli, Vitus W.....St. Petersburg
Marion, Dominic A.....Miami
Martin, Wilbur C.....Sanford
Mason, William G.....Tampa
Newman, Benjamin.....Lake City
Oakman, Carl S. Jr.....Ormond Beach
Parker, Sydney S.....St. Petersburg
Peterson, Walter R.....Daytona Beach
Putman, James H.....Miami
Rinaman, James C.....Miami
Sappenfield, Ralph.....Miami
Stoner, Cyrus H.....Fort Pierce
Torretta, Joseph N.....Tampa
Trice, William W. Jr.....Tampa
Weil, Leonard L.....Miami Beach
Wood, Johathan H.....Jacksonville

Georgia

Burdashaw, William J.....Augusta
Bush, James L.....Dublin
Butner, John H.....Atlanta
Center, Abraham H.....Savannah
Dew, James H.....Atlanta
Gill, John T. Jr.....Atlanta
Grossman, Maurice.....Augusta
Hauck, Allen E.....Atlanta
Jenkins, Hughes B.....Donalsonville
Kinnard, George P.....Newnan
Love, William G. Jr.....Columbus
McRae, Donald R. Jr.....Augusta
Osborne, Gladys H.....Chamblee
Rabhan, Leonard J.....Savannah
Roberts, William V.....Augusta
Shipp, Clanton C. Jr.....Atlanta
Sims, Fayette A. Jr.....Lawrenceville
Staton, Torrence R.....Atlanta
Vinson, Frank.....Fort Valley
Williams, David C. Jr.....Lavonia

Idaho

Hedemark, Norman G.....Boise
Newton, Abram M.....Pocatello

Illinois

Alexander, John R.....Charleston
Anspaugh, Frederick E.....Virden
Arlon, Ary J.....Chicago
Ashworth, John.....Chicago
Bartelsmeyer, Erwin C.....Hovelton
Blair, Earl H.....Chicago
Blinski, Maurice.....Chicago
Blumenstock, J.....La Grange
Blumenthal, Irving.....Chicago
Brookens, Norris I.....Chicago
Bufkin, Lindley L.....Wenona
Cada, Edward G.....Berwyn

PHYSICIANS SEPARATED FROM SERVICE

Illinois—Continued

Campbell, Rex S.....Springfield
Capos, Nicholas J.....Chicago
Capps, Richard B.....Chicago
Conway, Joseph.....Chicago
Elledge, Lloyd C.....Danville
Emons, Clifford W.....Alton
Fields, Charles.....Chicago
Foulke, Lawrence E.....Washington
Fremont, Edmund.....St. Charles
Friedman, Maurice H.....Chicago
Gaynon, Irwin E.....Kankakee
Ginsberg Julius E.....Chicago
Goldenberg, Morris.....Chicago
Goldt, Henry B.....Chicago
Good, Palmer W.....Oak Park
Gossard, Foster E.....Chicago
Graham, Vincent P.....Chicago
Grant, Harry.....Chicago
Greenberg, Morris.....Chicago
Halperin, Jacob.....Chicago
Hamilton, Eugene A.....Chicago
Hancur, Gerald A.....Berwyn
Hedges, Frank H.....Joliet
Hendricks, Clifford A.....Quincy
Hick, Ford K.....Oak Park
Hill, George R.....Fairfield
Hook, Walter E.....Chicago
Hoyt, Lucius W.....Reynolds
Hurwich, Arthur R.....Chicago
Jenkins, Alexander.....Chicago
Kadow, Archie M.....Chicago
Kamin, Isadore.....Chicago
Kaplan, Julius A.....Danville
Keller, Robert S.....Sandwich
Kerman, Willard Z.....Chicago
Kinser, Walter C.....Glasford
Klein, Seymour.....Chicago
Kochin, Maurice I.....Chicago
Koneski, Chester F.....Chicago
Korn, Bernard J.....Calumet City
Koziol, Stahislaus M.....Chicago
Kraemer, Horst C.....Chicago
Lardizabal, Francisco J.....Chicago
Layman, John A.....Moline
Leven, Aaron S.....Chicago
Levin, Louis.....Chicago
Levin, Samuel A.....Chicago
Luria, Lajos R.....Chicago
McManus, William F.....Chicago
Malcolm, Donald C.....Chicago
Mayer, Edward J.....Joliet
Meier, Donald A.....Chicago
Merz, Earl H.....Chicago
Metzger, Herman L.....Chicago
Montgomery, Max M.....Chicago
Montgomery, Nolan G.....Kewanee
Mosiman, William D.....Morton
Murphy, Edward S.....Dixon
Murray, Charles A.....Chicago
Neri, Michael P.....Chicago
Nold, Ralph J.....Belleville
Paolozzi, Hannibal H.....Chicago
Parker, Robert J.....Bloomington
Peffer, Peter A.....Downey
Pierce, Paul P.....Chicago
Pierzynski, Boles S.....Chicago
Plain, George.....Aurora
Pollock, Frederick R.....Chicago
Reiter, Joseph.....Chicago
Rose, Raymond F.....Dupo
Rosengard, Jerome L.....Chicago
Rubin, Herbert E.....Chicago
Rutledge, James H.....Nebo
Sandberg, Charles O.....Decatur
Sarantos, James W.....Chicago
Sauer, Francis E.....Rockford
Scagnelli, Ernest B.....Joliet
Schimmel, Walter A...Arlington Heights
Schmehil, Edward J.....Chicago
Schultz, Allen.....Chicago
Schweppe, John S.....Winnetka
Seaforth, Edward W.....Chicago
Seymour, Guy E.....Colfax
Shapiro, Arthur J.....Chicago

Illinois—Continued

Sloan, Howard.....Chicago
Somers, Harry V.....Chicago
Spadea, Samuel.....Chicago
Steinberg, Meyer J.....Glencoe
Toomey, Thomas N.....Springfield
Townsend, William O.....Glen Ellyn
Van Herik, Martin.....Chicago
Varney, Harley R.....Kewanee
Vazquez, Hector O.....Chicago
Vlasis, George P.....Chicago
Warren, Harry A.....Champaign
Welford, Norman T.....La Grange
Wexler, Ralph.....Taylorville
Williams, Philip C.....Chicago
Winograd, Alvin M.....Chicago
Yanowitz, Meyer.....Chicago
Zapolsky, Isadore.....Chicago
Ziemer, Martin F.....Chicago
Zimring, William J.....Chicago

Indiana

Allen, Loniel H.....Bedford
Argent, Albert H.....Marion
Bourke, William W.....Marion
Bown, Albert J.....Indianapolis
DeLawter, Hilbert H.....Indianapolis
Dimsdale, Lewis J.....Sioux City
Emme, Richard W.....Harlan
Engeler, James E.....Lebanon
Faust, Walter H.....Marion
Garber, J. Neill.....Dunkirk
Ginsberg, Stewart T.....Marion
Gitlin, Max M.....Bluffton
Hill, Howard E.....Muncie
Hillman, Marion W.....South Bend
Hoetzer, Eldore M.....Indianapolis
Holmes, Will W.....Logansport
Jolly, Lewis E.....Knightstown
Lang, Joseph E.....South Bend
Lewis, Marcel J.....Marion
McClelland, Harry N.....Indianapolis
Martin, Charles F.....Logansport
Mast, Karl F.....Ft. Wayne
Meyer, Orlando L.....Portland
Miller, Henry P.....Ft. Wayne
Milone, Joseph E.....Marion
Moehlenkamp, Charles E.....Evansville
Nash, Charles H. Jr.....Indianapolis
Neumann, Kenneth O.....Lafayette
Present, Julian D.....Evansville
Rohner, Ralph G.....Mitchell
Rosenbloom, Philip J.....Gary
Rudser, Donald H.....Whiting
Seferlis, Louis "S".....Gary
Shields, Tom S.....Indianapolis
Yocum, William S.....Coal City

Iowa

Barner, John L.....Des Moines
Cook, Roy S.....Tipton
Harris, Hubert L.....Des Moines
Henderson, John C.....Des Moines
Patterson, Alpheus W.....Fonda
Pfeiffer, Eric P.....Des Moines
Ridenour, Edward J.....Waterloo
Selman, Ralph J.....Ottumwa
Sheeler, Ivan H.....Davenport
Thomas, Clifford W.....Forrest City
Westley, Gabriel S.....Manly
Willett, Wendell M.....Des Moines

Kansas

Bates, Clarence E.....Wadsworth
Cauble, Wilbur G.....Benedict
Fowler, James T.....Osawatomie
Hiebert, Peter E.....Kansas City
Kiser, Willard J.....Wichita
Leger, Lee H.....Kansas City
Martin, Melvin C.....Newton
Richeson, Rae A.....Kansas City
Sills, Charles T.....Newton
Sims, Thomas J. Jr.....Kansas City
Thomas, Theodore J.....Florence
Wyatt, Charles A.....Holton

Kentucky

Barker, Denzil G.....Darfolk
Bierley, Harry E.....Coalgood
Farris, Joseph A.....Paducah
Gordon, Abraham M.....Louisville
Jones, Joseph H.....Crittenden
McCarley, Lynn D. Jr.....Russellville
Loveman, Adolph B.....Louisville
Marcum, Samuel G.....Irvine
Marion, Eugene L.....Adolphus
Metcalf, Richard M. E.....Lexington
Nagel, Louis.....Louisville
Ortner, Alvin B.....Louisville
Payton, Leland E.....Lynch
Pedigo, George W. Jr.....Louisville
Pfingst, Harry A.....Louisville
Ransdell, Herbert T. Jr.....Shelbyville
Reik, Louis.....Covington
Riker, William L.....Harrodsburg
Rust, Richard J.....Newport
Webb, Richard B.....Paintsville
Work, Charles E.....Ft. Thomas

Louisiana

Bates, Charles R. Jr.....Shreveport
Chauvin, Louis E.....Abbeville
Coon, Henson S.....Monroe
Corso, John.....Independence
DeMott, Jack D.....Independence
Gilmer, Roy J.....New Orleans
Goll, Charles F. IV.....New Orleans
Hays, Arthur V.....Lake Charles
Hoyt, Gus L.....Cheneyville
Jacobs, Warren M.....New Orleans
Kemp, Robert C.....Baton Rouge
MacPherson, Ford J.....New Orleans
Mathiasen, Henning W.....Alexandria
Morris, Harry S.....Baton Rouge
Morrow, Robert P. Jr.....New Orleans
Mutziger, Dudley H.....New Orleans
O'Neal, Buford L.....Shreveport
Parnell, Homer S. Jr.....New Orleans
Rosenberg, George.....Alexandria
Schlesinger, Lee C.....New Orleans
Screen, Raymond J.....New Orleans
Voorhies, Norton W.....New Orleans
Yongue, Ernest M.....Breaux Bridge

Maine

Goodwin, Ralph A. Jr.....Auburn
Miragliuolo, Leonard G.....Bangor

Maryland

Belz, Joseph A.....Baltimore
Bundick, William R.....Baltimore
Di Iorio, Edward L.....Ft. Howard
Dolowitz, David A.....Baltimore
Harrison, Thurston.....Baltimore
Heimoff, Leonard L.....Baltimore
Krause, Louis A. M.....Towson
Meiberger, Morris.....Glenn Dale
Newell, Horatio W.....Baltimore
Speert, Harold.....Baltimore
Sullivan, Maurice.....Baltimore
Wieciech, Michael J.....Baltimore
Willard, Harold N.....Baltimore

Massachusetts

Bloom, Herbert K.....Everett
Booth, Lee N.....Haverhill
Bresnick, Elliott.....Brookline
Brown, Ralph W.....Northampton
Canzanello, Vincent J.....Everett
Cataldo, Charles J.....East Boston
Caulfield, Thomas E. Jr.....Woburn
Daley, John M.....W. Newton
Edelstein, Abraham.....Bedford
Elwyn, Sidney L.....Dorchester
Flynn, John G.....Danvers
Foley, Robert E.....Worcester
Gaudreau, Robert C.....Indian Orchard
Gianturco, Nicholas D.....Chelsea
Giddon, Elliot D.....Brookline
Gill, Charles E.....Westfield
Gladstone, Robert W.....Pittsfield

PHYSICIANS SEPARATED FROM SERVICE

Massachusetts—Continued

Glaser, William.....Brookline
Goldstein, Meyer R.....New Bedford
Goulston, Harold F.....New Bedford
Grady, John P.....Pittsfield
Harberson, James C.....Boston
Harding, Edward.....Brookline
Harney, Aloysius P.....New Bedford
Hechler, Robert.....Rutland Heights
Heifetz, Frank M.....Lowell
Hobbs, Joseph R.....Williamsburg
Hurewitz, Samuel.....Fall River
Kannan, Michael J.....Lawrence
Lagerstedt, Edward W. H.....Brockton
Larkin, John J. Jr.....Westfield
Lavner, Gerald.....Haverhill
Levick, Alfred D.....Brookline
Levine, Milton.....Revere
Lundy, Joseph A.....Oxford
McHugh, William P.....Cambridge
Malone, Charles Jr.....Jamaica Plain
Maniscalco, Vincent.....Boston
Maraldi, Carl F.....Boston
Murfitt, Malcolm C.....Hingham
Murray, Roderick.....Brookline
Mushlin, Harry R.....Brookline
O'Connor, Frank M.....Newtonville
Ostrov, Norman N.....Boston
Pellock, Charles J.....Shrewsbury
Pilcher, Lewis S.....Newton Center
Posner, Benjamin H.....Salem
Ravin, Iver S.....Brookline
Schofield, Alan L.....Lowell
Shannon, Paul V.....Worcester
Starr, Steven J.....Clinton
Stetson, Richard P.....Brookline
Tarnower, Samuel M.....Pittsfield
Vaccaro, Francis J.....Pittsfield
Vecchione, Felix S.....Boston
Warren, Lyman O. Jr.....Brighton
Wood, Marshall S.....Pittsfield
Zetzel, Louis.....Cambridge

Michigan

Albin, Meyer S.....Cadillac
Baumann, Milton C.....Traverse City
Bayley, Howard G. Jr.....Battle Creek
Becker, Abraham.....Detroit
Berlien, Ivan C.....Detroit
Birch, John R.....Detroit
Bradford, Henry A.....Detroit
Brown, Richard J.....Owosso
Caplan, Leslie.....Detroit
Cheney, William D.....Charlotte
Cook, James A.....Lincoln Park
Curry, Robert K.....Homer
Eldredge, Edward F.....Detroit
Finch, F. S.....Armada
Gately, Cleo R.....Pontiac
Giffords, Mark.....Charlevoix
Gustafson, Jack R.....Ann Arbor
Hansen, Harvey C.....Battle Creek
Harrod, Gordon R.....Grand Ledge
Hoffman, Henry A.....Detroit
Hookey, John A.....Wyandotte
Huminski, Thaddeus S.....Detroit
Jasion, Lawrence J.....Detroit
Joistad, Arthur H. Jr.....Ann Arbor
Knapp, Joseph L.....Traverse City
Knapp, William D.....Flint
Kossayda, Adam W.....Detroit
Kovan, Dennis D.....Detroit
Leitch, Robert M.....Battle Creek
Lewis, Wilfrid J.....Detroit
Lovas, William S.....Dearborn
MacAlpine, Orville D.....Saginaw
MacDonald, Marshall A.....Lowell
McKeever, Robert J.....Detroit
Mateskon, Victor S.....Detroit
Maurer, John A.....Saginaw
Nelson, Dean F.....Bronson
Nickerson, Ivey D.....Detroit
Niemi, Osmo I.....Marquette
Perkin, Frank S.....Detroit

Michigan—Continued

Pratt, Lawrence A.....Detroit
Reiff, Morris V.....Detroit
Rice, Franklyn G.....Niles
Robinson, William G.....Hart
Rogalski, Floyd J.....Grand Rapids
Varco, Benedict W.....Dearborn
Vicary, William H.....Fort Custer
Wahl, George E.....St. Johns
Walder, Harold J.....Wayne
Woodburne, Arthur R.....Grand Rapids
Wyte, William C.....Detroit

Minnesota

Ahl, Carl W.....Hibbing
Andreassen, Einar C.....So. Minneapolis
Burns, Leo S.....S. St. Paul
Chalek, Jack I.....Minneapolis
Cleaves, William D.....Minneapolis
Eckhardt, Carl L.....Austin
Erickson, John W.....Jackson
Faue, Clarence G.....Hamel
Geurs, Benjamin R.....Hamel
Godwin, Bernard E.....Minneapolis
Hackie, Edward A.....Hallock
Harvey, George Jr.....Rochester
Hill, Earl.....North Minneapolis
Johnson, Harold C.....Thief River Falls
Kenyon, Thomas J.....St. Paul
Koskela, Lauri E.....Sebeka
Lundell, Carl L.....Cloquet
McCann, Eugene J.....Minneapolis
Madland, Robert S.....Fairfax
Mandell, Edward H.....Minneapolis
Merritt, Wallace A.....Rochester
O'Loughlin, Bernard J.....St. Paul
Paulson, Donald L.....Rochester
Paulson, Gordon S.....Fergus Falls
Reader, Donald R.....Fergus Falls
Reif, Henry J.....St. Paul
Rosenbloom, William.....St. Cloud
Schlicke, Carl P.....Rochester
Scilla, Joseph V.....Spring Grove
Sheinkopf, Jacob A.....Minneapolis
Spittler, Russell O.....New Richland
Sterner, John J.....St. Paul
Stover, Lee.....Rochester
Walker, Arthur E.....St. Paul
Wellman, William E.....Lake City

Mississippi

Adams, Jerald E. Jr.....Boyle
Barron, Seth H.....Columbia
Batson, Oscar R.....Gulfport
Berry, Charles T.....Greenville
Campos-Del-Toro, Luis.....Biloxi
Cook, Frederick M.....Laurel
Dees, James G.....Philadelphia
Edmondson, Hansel E.....Edwards
Eubanks, George W.....Greenville
Fitzgerald, William D.....Okolona
Hall, Rowland W. Jr.....Clinton
Hartman, Lee E.....Greenville
Heywood, Charles H.....Canton
Hicks, Gilliam S.....Natchez
Howell, John B. Jr.....Canton
Kety, Seiberth S.....Picayune
Kirk, Warren M.....Louisville
Lowry, James L. Jr.....Gulfport
Lynch, Marshal B.....Marks
McCharen, Littleton L.....Toccapola
McGuire, John C.....Hazlehurst
Pegram, Robert H. Jr.....Tupelo
Peterson, Richard J.....Schlater
Robbins, Eric P.....Brookhaven
Tatum, Jetson P.....Meridian
Wadsworth, Henry M.....Hernando
Werkheiser, Edwin B.....Philadelphia

Missouri

Barry, William B.....Kansas City
Becker, Edward J.....St. Louis
Behan, Lawrence G.....St. Louis
Berger, Edward J.....St. Louis

Missouri—Continued

Brown, James B.....St. Louis
Busse, Ewald W.....St. Louis
Coleman, Reese C. Jr.....St. Louis
Frankel, Sol I.....St. Louis
Franklin, Max S.....St. Louis
Greene, William W.....Richmond
Hannon, Robert E.....St. Louis
Harell, Alex.....St. Louis
Harris, Hinman A.....Bloomfield
Harris, James B.....St. Louis
Healey, Gordon.....Webb City
Helbing, Edward J.....Richmond Heights
Hughes, Judson M.....St. Joseph
Koon, Bernard T.....Perryville
Lottes, James O.....Cape Girardeau
Lyman, Edward H.....St. Louis
McDonald, Bruce P.....Kansas City
Martin, Raymond T.....St. Louis
Michaelson, Leo J.....Jefferson Barracks
Nixon, William A.....Kansas City
Post, Cyril A.....St. Louis
Pudleiner, Harold G.....Canton
Robinson, Walter K.....St. Louis
Scharles, Frederick H.....Kansas City
Silsby, Don J.....Springfield
Sisk, Harvey E.....Jefferson Barracks
Smith, Milton S.....St. Louis
Stauffacher, Charles G.....Sedalia
Stein, Leon A. P.....St. Louis
Tarver, Quinton.....Kennett
Thompson, Ralph.....St. Louis
Tober, Jerome N.....St. Louis
Trafton, Harold F.....St. Louis
Unger, Harold.....Kansas City
Waddle, Theodore L.....Fredericktown
Woolsey, Robert D.....St. Louis
Young, Morris S.....Kansas City

Montana

Fredrickson, Clyde H.....Missoula
Hodges, Dolon E.....Billings
Kane, Richard C.....Butte
MacKenzie, Duncan S. Jr.....Havre
Magner, Charles E.....Great Falls
Mouritsen, Holger S.....Medicine Lake
Peterson, Claude H.....North Great Falls
Seidensticker, John C.....Twin Bridges
Walker, T. F. Jr.....North Great Falls

Nebraska

Biglin, Robert F.....O'Neill
Bonniwell, Charles M.....Winslow
Fogarty, Charles J.....Omaha
Frazer, Maurice D.....Lincoln
Gant, Landon G.....Omaha
Hansen, Clifford H.....Omaha
Heidrick, Paul J.....Lincoln
Krause, Richard A.....West Point
LeMar, John D.....Omaha
McGuire, James A.....Wisner
Obert, Francis C.....Red Cloud

New Jersey

Albano, Edwin H.....South Orange
Allen, Robert F.....Parlin
Barhash, Abraham Z.....Newark
Bender, Louis.....Newark
Bernhard, William G.....Murray Hill
Binder, Charles I.....Newark
Borchek, Arthur R.....Weehawken
Caldwell, Donald M.....East Orange
Candio, Vincent P.....Lyndhurst
Caruso, Paul F.....Wood-Ridge
Charney, William.....Paterson
Coleman, Russell MacD.....E. Orange
Dachslager, Philip.....Plainfield
DeRosa, Armand.....Totowa Borrough
Donnelly, Joseph E.....Paterson
Doranz, Harold K.....Trenton
Fischer, Leo E.....Jersey City
Flicker, David J.....Kearny
Franklin, Frank A.....Orange
Gadek, William V.....Perth Amboy

PHYSICIANS SEPARATED FROM SERVICE

New Jersey—Continued

Garber, Robert S.....Trenton
German, George B.....Merchantville
Garnet, James D.....Atlantic City
Glynn, Sydney R.....Belleville
Graham, Ernest E.....Yardville
Halpern, Samuel.....Atlantic City
Hathaway, George Jr...Upper Montclair
Hant, Milton E.....Lakewood
Heineken, Theodore S.....Bloomfield
Hirschfield, Bernard A.....Trenton
Jackson, Kenneth K.....Jersey City
Kauder, Warren G.....East Orange
Kessell, John S.....East Orange
Kohn, Leo.....S. Orange
Liana, Stephen M.....Paterson
Loeb, Edward A.....Atlantic City
Lord, Charles D.....Glen Rock
Lynch, James F.....Jersey City
Mahadeen, Onver E.....Jersey City
Martella, Joseph.....Jersey City
Mascia, Franklin J.....Newark
Mazzarella, Carl L.....Paterson
Meltzer, Louis.....Bayonne
Moog, Charles R.....Oakland
Nagler, Benedict.....Newark
Novich, Max M.....Newark
Owen, Philip.....Union
Pfeffer, Burton B.....Maplewood
Potter, Benjamin P.....Jersey City
Read, Jessie D.....Westfield
Resch, Henry U.....Bloomfield
Richardson, Marvin T.....Livingston
Rubin, Bernard D.....Jersey City
Sacks-Wilner, Erwin P.....Trenton
Sloane, Milton B.....Pt. Pleasant
Smith, Wilbur A.....Oaklyn
Sperber, Thomas J.....North Bergen
Stage, Earl.....Tabor
Steward, Robert E.....Hillside
Szold, Norman F.....Lakewood
Terwedow, Henry A.....Hoboken
Triarsi, Anthony J.....Elizabeth
Venturo, Ralph C.....Glassboro
Waldron, Robert E.....Bloomfield
Weisman, Stephen L.....Paterson
Weltchek, Herbert.....Elizabeth
Zimmer, William.....Newark

New Mexico

Lazar, Harry.....Fort Bayard
Levine, Milton.....Fort Bayard
Ramey, Cash C. Jr.....Clovis

New York

Abeloff, Abram J.....New York
Adamo, Gaspar M.....Astoria, L. I.
Albert Seymour M.....Brooklyn
Alden, Carl B.....Adams
Altschuler, Abraham.....New York
Amyot, Rudolph F.....Cohoes
Ariola, Dominic S.....Brooklyn
Badanes, Maynard B.....New York
Badaines, Nathaniel H.....Batavia
Baker, Lauchlin J.....Ogdensburg
Barnett, Ernest R.....New York
Bartolo, Albert J.....Brooklyn
Baxter, Donald H.....Schenectady
Beiser, Max.....Bronx
Beller, Harry E.....Woodmere, L. I.
Berger, Alfred J.....Brooklyn
Berger, Morton.....Howard Beach
Berman, Benjamin.....Freeport
Bernhardt, Abraham A.....Brooklyn
Bernstein, Dennis.....Brooklyn
Berry, H. Meredith.....Lynbrook
Bersack, Solomon R.....Brooklyn
Bly, Paul.....New York
Bobeck, Charles J.....Canandaigua
Boccardi, Guido.....Astoria
Boehm, Robert J.....New York
Bondy, Philip K.....New Rochelle
Bradley, Harry A.....Clifton Springs
Brandes, Jack S.....Long Island City

New York—Continued

Bressler, David M.....Elmhurst
Buttitta, Richard I.....New York
Calabrese, Savin D.....Forest Hills
Calli, Louis J.....Massena
Capus, Bertram.....Bronx
Caravetta, Domenick.....Bronx
Catalanello, Sylvester A..Queens Village
Ceccolini, Edward M...North Tarrytown
Celi, Anthony.....Ozone Park
Chamberlain, Francis W.....Elmira
Chasen, Emanuel.....Brooklyn
Chisholm, Colin B.....Tuxedo Park
Cicero, John J.....New York
Cohen, Marvin S.....Niagara Falls
Coleman, Samuel R.....Hollis, L. I.
Cristina, Jerome F.....Buffalo
Cunningham, Vincent S.....New York
Curran, James P.....Amsterdam
Dalven, Joseph.....Brooklyn
Damin, Andrew J.....Yonkers
Davison, Bernard S.....Brooklyn
De Biase, Cesare F.....Brooklyn
Decker, Walter P.....Lackawanna
Deutsch, Albert L.....Brooklyn
Diana, Michael A.....New York
Dolce, Daniel D.....Buffalo
Dolce, Frank A.....Buffalo
Dolinsky, Louis L.....Woodside
Drazin, Morris L.....Maspeth
Dubkinsky, Alexander J.....Brooklyn
Ecker, Arthur D.....Syracuse
Ehrenfeld, Irving D.....Bronx
Eil, Max.....Bronx
Eisenberg, Benjamin.....New York
Eisenberg, Heinz.....New York
Eisendorfer, Arnold.....New York
Emm, William C.....Syracuse
Emmet, Richard.....Brooklyn
Ensworth, Herbert K.....Ithaca
Erickson, Russell B.....Buffalo
Evans, Jack McC.....Kenmore
Factor, Philip.....Bronx
Fantauzzi, Anthony J.....Mechanicville
Feigin, Emanuel V. D.....Elmhurst
Feinstein, Marcus A.....New York
Feiring, Emanuel H.....Richmond Hill
Feldman, Samuel A.....New York
Fieber, Mack H.....New York
Fine, Jacob I.....New York
Fink, Edward L.....Brooklyn
Fink, Heinz.....New York
Finke, Charles H.....Brooklyn
Finneran, John J.....Richmond Hill
Fishman, Sidney A.....Flushing
Fitzpatrick, William J.....New York
Ford, John H. Jr.....Syracuse
Forte, Cone.....Brooklyn
Fox, Israel S.....Brooklyn
Friedman, Henry H.....Bronx
Fuchs, William M.....Brooklyn
Furst, Eugene.....New York
Gage, Irvine E.....Albany
Gahagan, Lawrence H.....New York
Gerber, Howard R.....Brooklyn
Gerof, David G.....Brooklyn
Gibney, James A.....Olean
Giuffrida, Joseph G.....Brooklyn
Glasier, Pelham.....New York
Glickman, David B.....Brooklyn
Gold, Hillard.....Brooklyn
Goldschmidt, Aron.....New York
Gordon, Franklin.....Rockville Centre
Gottdiener, Elvin E.....Poughkeepsie
Greenberg, Benjamin E.....Brooklyn
Gross, David.....New York
Grubin, Samuel.....Flushing
Guarino, Frank A.....Brooklyn
Gubitosi, Charles J.....New York
Hahn, Leo J.....New York
Hammerman, Steven.....Brooklyn
Hardenbrook, Richard G.....Rochester
Hartman, David.....New Rochelle
Harvey, Harold K.....New York

New York—Continued

Healy, Martin J. Jr.....New York
Heller, Abraham G.....Brooklyn
Hendler, Sidney.....Brooklyn
Hernes, Morris.....Bronx
Hersloff, Nils B.....New York
Hetherington, Albert E.....Staten Island
Hilfinger, Martin F. Jr.....Syracuse
Hopkins, Charles E. R.....Brooklyn
Hugel, Louis.....Kingston
Hummer, William MacF.....Syracuse
Hutcheson, William C.....New York
Hutchinson, John J.....New York
Jacobson, Edwin W.....Brooklyn
Jackson, Samuel.....Valley Stream
Jessel, Erwin.....Bronx
Jimerson, Cedric C.....Corning
Jones, James M.....New York
Josephs, Alvin D.....Brooklyn
Kaiser, John B.....Woodmere
Kahn, Nathan R.....Brooklyn
Kamen, Samuel E.....Brooklyn
Kasday, Herman R.....Richmondville
Kashe, Leo H.....Northport
Kaslow, Morris.....Bronx
Katz, Jacob.....New York
Kaufman, Allen L.....New York
Keiber, Henry F.....Port Richmond
Knight, Albert P.....Waverly
Kogel, Marcus D.....Jamaica, L. I.
Krohn, Stuart E.....Utica
Lapidus, Jules.....Syracuse
Lassman, Samuel.....New York
Lawrence, Jesse C.....Brooklyn
Leavitt, Alexander.....Brooklyn
Lee, Carlton G.....Highland Falls
Leff, Abraham.....Huntington
Legault, Oscar.....New York
Leibner, Ira W.....Brooklyn
Leonard, Joseph A.....Syracuse
Levitt, Jesse M.....Brooklyn
Levy, Abraham H.....Brooklyn
Lichtblau, P.....Woodmere
Linick, Marvin.....New York
Lipson, Jerome.....Brooklyn
Lowry, Thomas McG.....New York
Lutman, Frank C.....Rochester
Lynn, Meyer W.....Poughkeepsie
McCaig, Robert A.....Saugerties
McDonald, Wilfrid L. J.....Hudson
McIlmoyl, Sherman W.....Troy
Maisel, Fred E.....New York
Malgieri, Joshua A.....Syracuse
Malin, Joseph M.....Staten Island
Mallo, Joseph P.....Niagara Falls
Maloney, Thomas W.....Geneva
Marino, Felix V.....Brooklyn
Marx, Isidore.....Brooklyn
Mason, Irwin.....Bronx
Masor, Philip L.....New York
Mastellone, George J.....Brooklyn
Matthias, Frank.....New York
May, Murray M.....Brooklyn
Meehan, William F.....Mt. Vernon
Mehldau, Henry A.....Brooklyn
Memmoli, Thomas.....Flushing, L. I.
Mercurio, Pasquale J.....Brooklyn
Merrill, Erwin C.....Canandaigua
Meyers, Harold R.....Brooklyn
Miller, Morris M.....Brooklyn
Millman, Adolph S.....Brooklyn
Milsner, Morton R.....New York
Mintz, Bernard J.....New York
Morrison, H.....Brooklyn
Mosher, Thomas E.....New York
Murray, Clarence S.....New York
Nadler, George.....Brooklyn
Nerone, William S.....New York
Newman, Walter.....New York
Nolan, James W.....Syacuse
Papas, Alexander D.....New York
Nagler, Herman.....Brooklyn
Pascal, Oscar.....Brooklyn
Patterson, Russel H.....New York

PHYSICIANS SEPARATED FROM SERVICE

New York—Continued

Peisachowitz, Leon....Bronx
Pernak, Thaddeus....Brooklyn
Persky, Nathan....Brooklyn
Pine, Maurice....Bronx
Piper, Ralph S....Rochester
Pipito, Feori F....Albany
Pokress, Murray J....New York
Pomerantz, Jacob S....Brooklyn
Potter, Harvey F....Brooklyn
Pratt, Dallas....New York
Procci, Waddie R....Staten Island
Proper, Theodore R....Newburgh
Psaki, Constantine G...Forest Hills, L. I.
Pugh, Howard C....Morrisville
Rachlin, Irving....New York
Radin, Lawrence J....Brooklyn
Rafkin, Edward I....Brooklyn
Rainville, Armand E....Hollis
Rand, Bernard....Brooklyn
Rauch, Samuel J....Brooklyn
Ribaudo, Salvatore J....Brooklyn
Riccardi, John D...Jackson Heights, L. I.
Richards, Charles H....New York
Richardson, Charles R....Clifton Springs
Root, Elliott D....Jamestown
Rosenbaum, Bruno L....Plattsburg
Rosenberg, Saul....Brooklyn
Rothstein, David L....Bronx
Rubin, David N....Mt. Vernon
Rubin, Harold....Yonkers
Ryan, James W....Bronx
St. Hill, Clyde E....New York
Sachs, Elihu M....New York
Sager, Clifford J....New York
Sager, Robert V....New York
Schatten, Siegfried S....New York
Scheffer, Isidor H....Jackson Heights
Schmick, Jesse E....Elmira
Schoenbach, Emanuel B....New York
Schwartz, George ....Bronx
Segal, Adolph....New York
Sherman, Harry.... ....Bronx
Silagy, Joseph M....New York
Smith, James H....Ossining
Snyder, Harold H....Newburgh
Somer, Joseph S....Brooklyn
Sperling, Joseph....Bronx
Stark, Sidney....Brooklyn
Stone, Samuel....South New York
Strauss, Arthur S....White Plains
Tamburello, Nino E....Farmingdale
Tansley, Evan....Newark
Tarnower, Herman....Scarsdale
Tarpey, Robert C....Bronx
Taylor, William G....Buffalo
Thompson, Robert E....Highland Hall
Thompson, Rodger T....Buffalo
Thompson, Theodore C....New York
Travers, Frank A....New York
Trousdale, Theodore M....Peekskill
Tulipan, Herbert I....Brooklyn
Vasile, Salvatore....Brooklyn
Vavrina, Raymond J....Floral Park
Virgo, Anthony J....Rochester
Vosburgh, Frederic L....Mt. Vernon
Warring, Willard B....Albany
Watts, Malcolm S. McN. Jr...New York
Weiner, Harold....New York
Weiner, Irving I....Brooklyn
Weiss, Alter....New York
Werner, Max....Staten Island
Wiener, Morris F....Brooklyn
Wildnauer, August F. Jr....Larchmont
Williams, Herbert M...Jackson Heights
Wilson, Thomas B....Hartsdale
Wolf, Morris J....New York
Yavelow, Charles S....Mt. Vernon
Zachmyc, Anthony....Buffalo
Zeichner, Morris....Brooklyn
Zeier, Francis G....White Plains
Zingaro, Frank F....Bronx
Zipser, Stanley S....Forest Hills
Zlotnick, Abraham....Bronx

North Carolina

Antonakos, Theodore....Winston-Salem
Bender, John J....Red Springs
Davis, Philip B....High Point
Feezor, Charles N....Morresville
Gillespie, Samuel C....Asheville
Hartman, Bernhard H....Asheville
Hudgins, Herbert A....Rutherfordton
Jones, Ira S....Lenoir
Jones, Logan O....Charlotte
Kapp, Constantine H....Winston-Salem
Knox, Isaac C. Jr....Durham
Large, Hiram L. Jr....Rocky Mount
McDonald, Robert L....Thomasville
Rose, Leslie W. Jr....Rocky Mount
Schanher, Paul W. Jr....Durham
Walker, Starnes E....Fayetteville
Wilson, Frank Jr....Raleigh

North Dakota

Geib, Marvin J....West Fargo
Pond, Harold S. Jr....Grand Forks

Ohio

Alley, John R....Greenville
Anzinger, Paul E....Springfield
Asbury, Charles W....Hamilton
Bane, Russell C....Chillicothe
Banning, William V....Shreve
Beekley, Henry C....Cincinnati
Blanton, Gerald W....Athens
Bliss, Theodore L....Akron
Borelli, John F....Hamilton
Brooks, Richard H....Huntsville
Brown, Walter J....Conneaut
Brunsting, Henry A....Toledo
Bubna, Louis E....Cleveland
Camp, Walter H....Dayton
Campbell, John B. S....Morrow
Colombi, Christopher A....Lyndhurst
Davis, Edward J....East Canton
Deger, Robert J....Dayton
Dickason, Jack H....Elyria
Drown, Willard G....Warren
Dugdale, Frederick E....Dayton
Eisenberg, Joseph A....Dayton
English, Robert J....Toledo
Fee, Charles H....Columbus
Fineberg, Meyer H....Cleveland
Flax, Ellis....Cincinnati
Foley, Norman K....Perrysburg
Forsythe, William E....East Cleveland
Forward, Donald D....West Ashtabula
Gendelman, Samuel....Manchester
Geroch, Stephen V....Akron
Gordon, Maurice B....Cleveland
Gribbin, Edward E....Toledo
Halle, Louis....Chillicothe
Hamilton, Ian B....Canton
Hait, Louis....Lorain
Hamilton, Paul V....Cincinnati
Hatcher, Emerson R....Columbus
Hauser, John W....Cincinnati
Heaver, Robert J....Youngstown
Higgins, Kenneth Ellis....Mariemont
Hines, Robert B....Barnesville
Ivins, Paul N....Hamilton
Kish, Louis S....Cleveland
Kottler, Saul....Cleveland
Lapi, Angleo....Canton
Larsen, Bernard B....Shaker Heights
Lecklitner, Myron D....Canton
Leist, John W....Columbus
Levin, Leo M....Cleveland
McCoy, States D....Columbus
Minnis, Dean H....Amherst
Mithoefer, James....Cincinnati
Moon, Richard P....Dayton
Nemrow, Curt M....Cleveland Heights
Osherwitz, Morris S....Cincinnati
Peck, Howard B....Mansfield
Perlin, Michael H....Cleveland
Porter, Richard A....East Liverpool
Porter, William L....Cincinnati

Ohio—Continued

Preston, William T....Toledo
Purchla, Edward J....Toledo
Rader, Jarko P....Columbus
Rayman, Jonas B....Toledo
Ritter, Karl F....Lima
Rowles, Donald F....Lancaster
Shecket, Harman A...Cleveland Heights
Shehan, Thomas A....Shaker Heights
Stoughton, Wilbur A....Columbus
Toomey, Rickard S....Willoughby
Van Buren, George....Akron
Ward, Harold W....Columbus
Wilson, Stewart M....Columbus
Witker, Jack Carlton....Toledo
Wedemeyer, Marlin R....Oak Hill

Oklahoma

Gingles, Robert H....Oklahoma City
Jarrott, John B....Oklahoma City
McClure, Coye W....Vinita
Rome, Albert....Muskogee
Tappen, Daniel L....Oklahoma City
Turner, Ralph D....Muskogee
Williams, Claude....Stigler

Oregon

Ahern, Eugene E....Portland
Butler, Harry T....Portland
Fixott, Richard S....Portland
Goren, Morris L....Portland
Lewis, Howard P....Portland
McGraw, Lowell S....Molalla
Nielsen, Warren E....Portland
Perkins, James G....Milwaukee
Sallquist, Ardin A. N....Portland
Slocum, Donald B....Eugene
Soine, Tyler S....Newberg

Pennsylvania

Abbott, Albert J....Nanticoke
Abramson, Harry.... ....Philadelphia
Albright, Edwin P....Allentown
Alexander, John B....Philadelphia
Arkless, Henry A....Philadelphia
Banks, Walter A....Macungie
Beck, Erwin.... ....Wilkinsburg
Berman, Richard....Philadelphia
Bonner, Dennis J.... ..Summit Hill
Borbonus, John N....Johnstown
Brain, Joseph Jr....Isabella
Brink, Cornelius P.... .Chambersburg
Carlson, Oscar S....Bradford
Chamberlain, Richard H....Philadelphia
Chodoff, Richard J....Philadelphia
Cicchino, Frank E....Brentwood
Clymer, Robert H. Jr.. .... .Reading
Coffey, David H.... ....Patton
Cohen, Irwin J.. .. ..Danville
Cohen, Robert V.... ....Elkins Park
Cohn, Walter L. .. ....Philadelphia
Collis, Abraham S....Philadelphia
Costa, Frank.... .. .. .. Verona
Custer, Richard P....Haverford
Czemerys, Eugene....Pittsburgh
Decker, Raymond R....Lewistown
Deverson, Edward R.... Pittsburgh
Dion, Harry S.... ..Philadelphia
Earp, Halburt H....Catasauqua
Ehrhart, Lawrence A. Jr....Pittsburgh
Erhard, Gerald A....Curwensville
Fisher, Edward J....Philadelphia
Flaig, Julian V....Pottsville
Ford, Walter L....Philadelphia
French, Travis A....New Castle
Freyman, Leon....Norristown
Gable, Joseph E....West Reading
Gaffney, Paul C....Dubois
Garvin, Robert O....Pittsburgh
Gerber, Morris J....Harrisburg
Getson, Maurice....Philadelphia
Gilbert, Bernard M....Philadelphia
Goldstein, Morris A....Pittsburgh
Greenfield, Alfred R....McKeesport

PHYSICIANS SEPARATED FROM SERVICE

Pennsylvania—Continued

Gutnick, Morton.....Philadelphia
Hamill, John P.....Ligonier
Hanlon, Edmund F.....Hazleton
Harshman, Leroy D.....Fredricktown
Hart, Alonzo W.....Philadelphia
Hartman, Warren E.....Bradford
Hollander, Joseph L.....Philadelphia
Hunsberger, Joseph L.....Norristown
Hurwitz, Abe.....Harrisburg
Jacobs, Louis C.....Harrisburg
Jaffe, Louis.....Philadelphia
Kirshner, Jacob J.....Philadelphia
Klatman, Samuel J.....Pittsburgh
Knight, John E.....Jersey Shore
Kraft, Alfred C.....Pittsburgh
Kremer, Howard U.....Philadelphia
Labowskie, Peter J.....Conshohocken
Lamberti, William F.....Scranton
Langner, Paul H. J.....Drexel Hill
Leiby, Lewis J.....Slatington
Leopold, Howard C.....Philadelphia
Lipschutz, Samuel S.....Philadelphia
Lloyd, Preston C.....Philadelphia
Lynch, Joseph S.....Chester
McCue, Howard M. Jr.....Philadelphia
McCollough, Newton C.....Butler
McCutcheon, Charles T...Highland Park
McDade, Robert E.....Philadelphia
McFadden, Patrick J.....Pittsburgh
McNutt, Frank H.....Fort City
Mallory, Victor T.....Dickson
Mangione, Anthony J.....Scranton
Manning, Valentine R. Jr....Philadelphia
Martin, Ronald E.....Pittsburgh
Mather, Clayton B.....Drexel Hill
Meloro, Patrick R.....Philadelphia
Meyers, Harold L.....Warren
Mitchell, Norman.....Tyler Hill
Molter, Howard A.....New Brighton
Morris, Harry H.....Mars
Moser, George P.....Bloomsburg
Nelson, James D.....Philadelphia
Newell, Bernard A.....Jenners
Orfuss, Abraham J.....Harrisburg
Osterloh, Charles T. Jr.....Pittsburgh
Packman, Martin.....Philadelphia
Parker, Edward A. III....Upper Darby
Peters, Michael.....Telford
Petersen, Norman V.....Erie
Pober, Hymen.....Pittsburgh
Poinsard, Paul J.....Dalton
Powell, Lytle J.....Bellevue
Reichel, John Jr.....Wynnewood
Reiss, Robert S.....Philadelphia
Ronan, Robert B.....Bridgeport
Rossi, Ralph A.....Philadelphia
Ruff, Curtis C.....Slippery Rock
Schwab, Morton.....Philadelphia
Sherman, Samuel.....Pittsburgh
Silver, George A.....Philadelphia
Silverman, William.....Bethlehem
Snyder, William J.....St. Mary's
Spangler, Charles A.....Perkasie
Spivack, Herman A.....Philadelphia
Tedesco, Joseph F.....Pittsburgh
Thomas, Arthur H.....Philadelphia
Uhler, Ellsworth P...Upper Black Eddy
Vale, Henry E. P.....Peckville
Valerio, James V. Jr.....Philadelphia
Vogel, Harold R.....Pittsburgh
Volk, Frank N.....Philadelphia
Von Senden, Karl S. Jr.....Pittsburgh
Walmer, John D.....Johnstown
White, Richard K.....Philadelphia
Whiteley, William H. III...Philadelphia
Wendell, James I. Jr.....Pottstown
Wilkins, Warren R.....Spring City
Woloshin, Henry J.....Philadelphia
Woodhouse, James E.....Bradford
Yeutter, Charles H.....Philadelphia
Yount, John A.....Pittsburgh
Zarfos, Morgan L.....York

Rhode Island

Cooper, Maurice Z.....Pawtucket
Gannon, Charles H.....Providence
Geller, Philip S.....Newport
Gibson, Jesse M.....Providence
Harris, Stephen H.....Valley Falls

South Carolina

Calder, Alexis B.....Sumter
Hawkins, William S.....Greenville
Hearn, Paul P.....Greenville
Phifer, Isaac A.....Spartanburg
Poole, Charles H. Jr.....Spartanburg

South Dakota

Heidepriem, Glen.....Custer
Miller, George A.....Hot Springs

Tennessee

Buchignani, Joseph A.....Memphis
Evans, John D.....Memphis
Goldberg, Fred A.....Memphis
Latimer, Robert G. Jr.....Union City
McElroy, James W.....Memphis
Morford, Theodore.....Nashville
Pollard, Edward V.....Parsons
St. Clair, Arthur W.....Memphis
Tate, James K.....Bolivar
Taylor, Edward L.....Memphis
Warder, Thomas F.....South Nashville

Texas

Allison, Albert M.....Alice
Beadles, Robert O. Jr.....Big Spring
Bennett, John B.....LaMesa
Boykin, James M.....Taft
Brandon, Sylvan.....Houston
Bussey, James E.....Longview
Caffee, William M.....Dallas
Clapp, James A. Jr.....Houston
Clark, Arthur L.....Dallas
Cockerell, Earl R.....Abilene
Cole, Marion W.....Evant
Coleman, Robert H.....Mineola
Darnall, Charles M.....Austin
Dunstan, Edgar M.....Dallas
Fine, Eldon B.....Cleburne
Fleet, Carl W.....Houston
Gallagher, Paul.....El Paso
Ghormley, William C.....Corpus Christi
Green, Wilbur K.....Houston
Griffin, Harold B.....Fort Worth
Harper, Robert W.....Dallas
Hubbs, Roy S.....Waco
Johnson, James L.....Wichita Falls
Lekisch, Kurt.....Midland
Lewis, Claude.....Waco
Livengood, Gerald S.....Bay City
Lyle, Edward H.....Dallas
McCarroll, William H.....San Antonio
McCloud, Benjamin L. Jr...San Antonio
McNamara, James C. Jr.....Dallas
Marcuse, Peter M.....Houston
Martin, Claude A.....Austin
Mitchell, Joseph H.....Beaumont
Neill, Lex T.....Tyler
Oakes, Harold F.....El Paso
Oldham, Dudley Y.....Houston
Phillips, Oliver M.....Marlin
Porter, George L.....Dallas
Reinarz, Berthold H.....San Antonio
Rhode, Oscar E.....Colorado City
Robinson, Hampton C. Jr...Missouri City
Sacks, David R.....San Antonio
Schaffer, Samuel S.....Houston
Seibold, George J.....Wichita Falls
Schaffer, Samuel S.....Houston
Sharp, William E.....Houston
Sherrill, Ethan A. Jr.....Houston
Stephens, George K.....Whiteright
Stokes, Robert C.....Vernon
Stovall, Sidney L.....Dallas
Tobolowsky, Nathan.....Dallas
Welty, John A.....Austin
White, Paul L.....Austin

Utah

Jones, Paul L.....Salt Lake City
King, Ernest Q.....Salt Lake City
Nelson, Leath D.....Richfield

Virginia

Bailey, William R. Jr.....Quinton
Bates, Harry C. Jr.....Arlington
Bates, Robley D.....Richmond
Becker, Arnold H.....Burlington
Binder, Morris.....Petersburg
Bland, Milton H.....Norfolk
Coats, Thomas F. Jr.....Tazewell
Delarue, Edward A. Jr.....Richmond
Des Rochers, Jean B.....Roanoke
Deyerle, William M.....Richmond
Edson, Dean H.....Burlington
Feldman, Jerome.....Richmond
Grinels, James R.....Richmond
Jackson, Robert N.....Springfield
Jacobs, Frederick M.....Roanoke
King, Harold N.....Hampton
La Fratta, Carl W.....Richmond
McClung, Oscar H. Jr.....Lexington
MacPherson, Archibald R.....Arlington
Massey, John W. Jr.....Newport News
Meyer, Julien H.....Roanoke
Nicholson, Charles T. Jr.....Alexandria
Policoff, Leonard D.....Richmond
Powell, James H.....Petersburg
Ralph, Robert D.....Alexandria
Robertson, Edward B.....Danville

Washington

Billington, Sherod M.....Seattle
Brown, Norman R.....Spokane
Bunnell, Harris F.....Tacoma
Douglass, Frank H.....Seattle
Drucker, Gerhart A.....Tacoma
Geehan, John W.....Seattle
Gilbert, Harry A.....Mt. Vernon
Jared, Myron S.....Seattle
Judy, Frederick R.....Spokane
Tapp, Ernest M.....Walla Walla
Topp, William L.....Seattle

West Virginia

Cook, Ambrose H.....Huntington
Cook, William C.....Princeton City
Dorsey, William A.....Wheeling
Jarrett, Joe N.....Oak Hill
Lamb, Robert M.....Charleston
McCue, Frank A.....Bluefield
Weiler, Howard G.....Wheeling

Wisconsin

Britton, Donald M.....Madison
Crumpton, Charles W.....Madison
Ellis, Frank R.....Marinette
Greeley, David McL.....Madison
Harris, Harold L.....Antigo
Holbrook, Arthur A.....Milwaukee
McDonough, Joseph F.....La Crosse
Marshall, Fred S.....Black Earth
Meloy, George E.....Milwaukee
Mookerjee, Marcus K.....Milwaukee
Peabody, Cary S.....Madison
Pierce, Dennis F.....Hales Corners
Rohde, Elmer P.....Merrill
Schaeffer, Bernard S.....Milwaukee
Schoofs, Gregor E.....Green Bay
Sims, John L.....Madison
Twelmeyer, Henry F.....Milwaukee
Vaudreuil, William F.....Chippewa Falls

Wyoming

Wilmoth, Luther H.....Lander

Canal Zone

Whittier, LaMont.....Canal Zone
Zailsky, John E.....Canal Zone

Puerto Rico

Hereter, Jorge A.....Caquas
Hernandez-Matos, Jose A.....Santurce

ORGANIZATION SECTION

Washington Letter

(From a Special Correspondent)

Aug. 5, 1946.

Henry Kaiser Finances Kabat-Kaiser Institute for Neuromuscular Rehabilitation

Henry J. Kaiser, West Coast industralist, has announced that he will finance a young Washington physician, Dr. Herman Kabat, in founding the Kabat-Kaiser Institute for Neuromuscular Rehabilitation in the U. S. Capital. Mr. Kaiser's action is said to have been taken in gratitude for treatment given to his son. It is understood a chain of Kabat-Kaiser institutes is planned. Dr. Kabat has been the subject of articles in several national magazines describing his use of neostigmine and intensive muscular reeducation through physical therapy in the treatment of paralytic patients. His methods are said to have been effective in treating victims of spastic paralysis, residual disabilities of infantile paralysis, multiple sclerosis, paralysis resulting from war and industrial injuries, and other paralytic conditions. The new institute is to have 60 beds, a full time staff of doctors and physical therapists, and it will engage a number of medical consultants. Formerly an orthopedic surgeon with the District Health Department and the U. S. Public Health Service, Dr. Kabat graduated from the University of Minnesota Medical School in 1943.

Wing at Walter Reed Hospital Remodeled for Use of President Truman and Family

To Walter Reed Hospital has gone the honor of attending to the medical needs of President Truman, former artillery officer, and his family. Special facilities were provided for the late President Roosevelt at the Navy Medical Center, Bethesda, Md. A wing of Walter Reed Hospital is being remodeled as a suite for emergency use of the Trumans, with a bedroom, living room and reception room for the President's accommodation, four additional bedrooms, two sitting rooms, a diet kitchen, a room for guards and a solarium. Col. Wallace Graham, presidential physician, said he had been working since his appointment to obtain a place where the President could have not only adequate facilities but privacy and the protection of the Secret Service needed for the President. Colonel Wallace said that at 63 the President has the energy and resistance of a man many years younger.

President to Approve $20,000,000 Medical Center for District of Columbia

Prompt Presidential approval is expected of the bill to provide $20,000,000 to establish a medical center in the District of Columbia, combining the facilities of Emergency, Episcopal and Garfield hospitals. An effort was made in the Senate to include $15,000,000 for improvement of facilities of other hospitals in the area. However, when Congress returns after the forthcoming recess, the Federal Works Agency will ask for restoration of $15,000,000 for expansion, rebuilding and remodeling of neighborhood hospitals, eliminated from the bill. It is probable that planning of the new center will go on for six months. President W. R. Castle of Garfield Hospital reports that a group of doctors in the District have offered to send a delegation to Sweden for a study of Swedish hospital construction as a possible pattern.

General Hawley Announces Plan to Study War Wounds and Diseases

Gen. Paul R. Hawley, Veterans Administration medical director, informed a press conference of plans whereby his department, in conjunction with the Army, Navy and National Research Council, will undertake follow-up studies of veterans disabled by wounds and disease during the war. He said "We have all the wartime records and so have a unique opportunity to continue the investigations begun in the war. We want to know what happens in later life to the man who suffered from rheumatic fever, from hepatitis, from brain injuries." Dr. Hawley said that thirteen states are now participating in the home town outpatient treatment for veterans. He revealed that 4,100 doctors are now attached to Veterans Administration hospitals. Around 400 will be needed in the next four months, with salaries ranging from $6,000 to $11,000.

Congress Passes Billion Dollar Hospital Bill

Congressional approval has been given and only the signature of President Truman was needed to make law the Hill-Burton bill which authorizes $1,125,000,000 for a five year hospital construction program. The bill authorizes the federal government to pay one third of the costs of building or equipping new hospitals and it appropriates $375,000,000 to finance the program. Two thirds must be contributed by sponsors of individual projects. Private nonprofit hospitals and state, county and city institutions may share in the program. States will share on a basis of need, to be ascertained through ratio of per capita income bearers to the national average value of products, population and other factors.

Proposal for a U. S. Department of Health, Education and Security

A bill introduced in the Senate by Senators Fullbright, Democrat of Arkansas, and Taft, Republican of Ohio, proposes that a Department of Health, Education and Security be created in the United States government. It would be the eleventh department of government. The bill calls for a secretary to sit in the President's cabinet. The department would include the Office of Education, the U. S. Public Health Service, St. Elizabeths Hospital and many other federal agencies.

District Wins Right to Arrest Persons Suspected of Carrying Communicable Diseases

Congress has given its approval to a new health department bill for the District of Columbia which provides the right to arrest and hold persons suspected of having or carrying communicable diseases. Health Officer George C. Ruhland is empowered to order such persons held by any health officer or by the Metropolitan Police. The bill exempts Christian scientists from compulsory hospitalization or treatment.

Medical Legislation

MEDICAL BILLS IN CONGRESS

Department of Health, Education and Security

S. 2503, introduced by Senator Fulbright, Arkansas, and Senator Taft, Ohio, proposes the establishment of a Department of Health, Education and Security to be administered by a Secretary of Health, Education and Security. The department will include a Division of Health, which, under the immediate supervision of an Assistant Secretary for Health, shall have charge of health functions and activities of the department; a Division of Education, which, under the immediate supervision of an Assistant Secretary for Education, shall have charge of the educational functions and activities of the Department, and a Division of Security, which, under the immediate supervision of an Assistant Secretary for Social Security and Welfare, shall have charge of the social security and welfare functions and activities of the department.

National Geriatrics Institute

Representative DeLacy, Washington, proposes by H. R. 7222 to establish in the United States Public Health Service a National Geriatrics Institute for study and research in the prevention and cure of diseases and ailments common to old age. An appropriation not in excess of $15,000,000 will be made available to cover the cost of establishing the institute.

THE WAGNER-MURRAY-DINGELL BILL

Hearings on S. 1606—To Provide for a National Health Program

(NOTE.—*This is a condensation of the verbatim report of the hearings.*—ED.)

(Continued from page 1160)

United States Senate, Committee on Education and Labor.

JUNE 18, 1946

HONORABLE JAMES E. MURRAY Presiding

PRESENT: Senators Murray and Donnell.

Statement of Alfred Baker Lewis, President, Union Casualty Company

MR. LEWIS: We found that the interest shown by the members of organized labor in the problem of group accident and health insurance for their members has grown by leaps and bounds until today there are few unions that do not hope or plan in the fairly near future, if they do not already have group policies, to get one for their members as part of their collective bargaining arrangement. Our company, operating exclusively in this field, would be put out of business if the National Health Bill and the bill—I think that the number is 1050—which provides for part payment to people who are out of work in cash as distinguished from actual medical service is passed; nonetheless, despite the fact that our company would be put out of business, I am in favor of this legislation.

The bill specifically provides, section 205, subsections (a) and (b), that there shall be full and complete choice for patients of doctors and for doctors of patients.

SENATOR DONNELL: What sections are those? MR. LEWIS: 205 (a) and (b). I suggest that if this bill passes the only difference for doctors in the medical practice would be that many poor persons who now get no, or inadequate, medical service unless a doctor gives it to them free would get such service. That is on the one hand. And the doctor who gives it to them, on the other hand, would be paid for his service instead of having to give it free or, at best, being compelled to dun his patients, which no doctor likes to do, in order to get bills paid; or perhaps he would be paid for his service instead of tending to limit the services for underpaid persons not to what is best from the point of view of curing the disease and curing the patient but to what he thinks the patient can pay for.

If the bill passes, medical practice will be little different from what it is today, except that the doctor will get paid a definite sum for work which he now either does free or tries to get out of if he has not a social conscience—and obviously, no matter how much social conscience he has, the amount of free work he can do is limited to what some wealthy patient can pay for.

(*Mr. Lewis said that he had been an organizer for the Socialist Party in Massachusetts for sixteen years.*)

SENATOR DONNELL: Now, in your capacity as organizer for the Socialist Party in Massachusetts, what were your general duties? MR. LEWIS: Well, trying to make more socialists.

SENATOR DONNELL: Do you know Dr. Leo Pearlman? MR. LEWIS: Yes. I know Dr. Leo Pearlman very well indeed, sir.

SENATOR DONNELL: When did you meet him? MR. LEWIS: I met him in 1941 or 1942. I have forgotten.

SENATOR DONNELL: 1941 or 1942. MR. LEWIS: Yes, sir. He is the executive vice president of the company of which I am president.

SENATOR DONNELL: That is, the Union Casualty Company? MR. LEWIS: Yes, sir.

Statement of Dr. Albert W. Bailey, Chairman, Committee on Health Insurance, American Osteopathic Association

DR. BAILEY: The association comprises some 8,000 members out of a total of about 11,000 osteopathic physicians who are licensed and practicing their profession in all the states. There is one licensed doctor of osteopathy for every eighteen licensed doctors of medicine, and there is one student in training for osteopathy for every twelve students in training for allopathy and homeopathy. About one hundred and seventy-five osteopathic hospitals, of which fifty-six are approved for intern-training, serve the public health in various sections of the country.

All states license osteopathic graduates. In ten states osteopathic applicants take the same examination before the same state boards as that given to graduates of class A schools granting the degree of Doctor of Medicine, and in most of the remaining thirty-nine states osteopathic applicants are subjected to comparable state examinations before state osteopathic, medical or mixed boards, or, as we sometimes say, composite boards.

No student may enter any of the six approved osteopathic colleges unless he has completed a minimum of two years preprofessional college work, including the subjects which are generally specified as preliminary to medical education. The professional course comprises four years. There is not a sufficient number of osteopathic hospitals approved for intern-training to accommodate all graduates in osteopathy. It is expected that the hospital construction program authorized under S. 191 will provide relief for that deficiency.

More than half of the members of the osteopathic profession are located in states licensing doctors of osteopathy to practice all branches of the healing art, including major operative surgery and the employment of drugs generally. General practitioners, whether doctors of osteopathy or doctors of medicine, as a rule refer their major surgical cases to doctors of osteopathy or doctors of medicine who specialize in surgery.

American Osteopathic Specialty Boards certify doctors of osteopathy for the surgical and other specialties.

Millions of people in this country depend on osteopathic physicians, surgeons and osteopathic hospitals, and it would be a fraud on these people if they were compelled to pay taxes in prepayment of medical care costs under the delusion that the benefits accruing to them would include osteopathic services under the plan.

I do not believe that Congress would knowingly be a party to such a fraud. Some medical protagonists of the legislation who have previously testified before this committee have stated that the provisions of the bill are ambiguous as to osteopathic inclusion, and they have asked that the ambiguity be cleared in favor of osteopathic exclusion.

We propose that the ambiguity be clarified for osteopathic inclusion, and we submit the following amendment for the purpose:

This amendment would be put under title III, which is practically never mentioned here. It is on the last page of the printing of the bill before you.

Page 28, title III, renumber section 301 to become section 302 and insert a new section 301, to wit:

"The terms 'medicine,' 'medical,' 'medical care,' 'physicians,' 'physician,' 'medical practitioner,' 'medical practitioners,' 'family practitioner,' 'family practitioners,' 'hospital,' 'hospitals,' 'hospitalization' when used in this act shall include osteopathy and licensed osteopathic practitioners and osteopathic hospitals within the scope of their practice as defined by state law."

(*Dr. Bailey cited the experiences of osteopaths and the history of congressional legislation at some length.*)

I believe that is all that we need to set forth in any prepared statement. We have tried to show that unless osteopathic inclusion is definitely written into the bill, its provisions are usually construed in the narrow sense rather than in the broad sense, and it is for the purpose of osteopathic inclusion that we have submitted this one amendment to be put in Title III.

SENATOR DONNELL: I would like the record to show that a report prepared by the Bureau of Legal Medicine and Legislation of the American Medical Association, Chicago, in May 1945 contains the following information:

"In seventeen states and in the District of Columbia laws have been enacted requiring applicants for licenses to practice the healing art in any form to demonstrate, before being permitted to take their professional examinations, their proficiency in certain basic sciences by passing an examination given by a nonsectarian, impartial board of examiners. The

sciences generally considered as basic are anatomy, physiology, chemistry, bacteriology and pathology.

"From 1927 to 1944, inclusive, 1,438 osteopaths undertook to pass basic science examinations in the jurisdictions in which the requirement has been established. Fifty-seven per cent, or a total of 819, passed. During this same period 19,921 students or graduates of medical schools were examined and 87 per cent, or a total of 17,403, passed."

JUNE 20, 1946

HONORABLE JAMES E. MURRAY Presiding

PRESENT: Senators Murray and Donnell.

Statement of Andrew T. Court, Labor Economics Section, General Motors Corporation, Representing the Chamber of Commerce of the United States

MR. COURT: The issues involved in health insurance are highly complex and include both the personal and the economic relationships of millions of persons, such as the relationship of patient to physician, of employer to employee and of citizens to government. These problems cannot possibly be solved on any equitable basis without the collaboration of all of these groups. This would seem to apply especially to the medical profession, who must have an important part in the formulation of any program for insuring the health of the nation. Substantial progress has already been made as a result of voluntary action, and many today are convinced that we should continue to rely on voluntary efforts. Regardless of any plan or procedure selected, a health insurance plan, to be successful, must have flexibility in meeting changing conditions. Such flexibility is only possible if a substantial degree of local responsibility is utilized. Decentralization is of the utmost importance to adapt the program to the particular conditions which may be present. Voluntary plans provide conclusive evidence that, should it ever develop that some governmental action might be appropriate in any area of health insurance, it should be in the nature of an experiment at the state or local level rather than a compulsory national uniform plan.

The policy of the Chamber of Commerce:

With this in mind, the Chamber of Commerce developed the following propositions as constituting its basic policy with respect to health insurance programs:

1. Employers who have not done so should explore the possibility of providing for their employees some protection against nonindustrial or nonoccupational disabilities and sickness.

2. If, after a reasonable period of time, the private effort of employers to provide protection against nonindustrial and nonoccupational disabilities and sickness still leaves substantial gaps in coverage, only then should public action be contemplated.

3. If such public action is taken as indicated in *2*, this should be at the state and local levels of government rather than at the federal level.

4. If such legislation as indicated in *2* is passed, this should permit voluntary group plans to operate as alternatives to government plans.

5. Voluntary group effort to provide more adequate medical services for all the people is urged. And, finally:

6. There should be avoidance of a system of socialized medicine, under which all the medical personnel become government employees, and the free choice of doctor by the patient and of patient by the doctor is impaired.

The hazards of compulsion:

It is extremely doubtful whether most members of the medical profession will willingly participate in a plan such as the one outlined in the Wagner-Murray-Dingell bill. We feel that the sort of cooperation necessary can not be achieved by compulsory legislation. If there is a reasonable basis for cooperation, obviously the best way to attain it is by a full and frank exploration of the readjustments necessary to the present system of medical care. Even if all the medical professions would cooperate wholeheartedly with the compulsion inherent in this legislation, there are just not enough numerically in this country today to give the medical care which would be demanded by the public as a right conferred on them through the passage of this legislation.

If the purposes of this bill are to be carried out, there must be more doctors, nurses, dentists and hospitals. Unless the prospective doctors, nurses or dentists have some idea of what is in store for them, their initiative to enter the profession may be retarded. If such retardation may be assumed as a logical promise, it would seem that this legislation would deter the assurance of the necessary number entering the medical field. It may be questioned whether or not this bill makes these provisions attractive to the young people from whom future doctors, dentists and nurses must be recruited.

Any insurance program is based fundamentally on a plan for sharing risks. It is not a device for shifting burdens from a group who need benefits and cannot afford to pay for them to another group who can better afford to pay the costs of those benefits; therefore, insurance is not the proper medium for financing the costs of medical attention for the indigent. Further, insurance is not usually used to finance the small, easily anticipated expenses which create no economic hardship to the person incurring them.

The avowed purpose of the bill is to give everyone ready access to good medical care. The Surgeon General must, therefore, obtain the participation and the cooperation of the medical professions. Without such participation and cooperation, including that of the more competent members of these professions, the plan would be an empty gesture.

The violent reaction of the organizations representing the major portion of the medical professions would indicate that such cooperation cannot be achieved at this time. Nor does it seem likely that their cooperation can be obtained in the future if there is a continuation of the lack of candor which has so far characterized the proponents of this type of legislation.

What would be the result if a salary basis of compensating physicians were substituted for our present fee-for-service basis? Would professional standards be higher or lower than at present? Would the net change in the picture, including the introduction of political and bureaucratic forces, make the medical professions more or less attractive to qualified potential entrants into these professions?

The recent disclosures concerning the medical care provided through the Veterans Administration is certainly disquieting in this regard.

Certainly a careful examination of the character and quality of the services which are now being supplied by physicians employed on a salaried basis by political agencies, including an investigation of the reasons for any shortcomings in the quality of that service, should be made before further steps are taken and before seriously considering the adoption of a national system which may force a general salaried basis of compensation on physicians.

In conclusion, it cannot be overemphasized that the Chamber of Commerce of the United States favors those things which will improve the health of the nation.

The chamber does not feel, however, that the people of this country have yet decided, as a matter of public policy, that control of the distribution of medical care is a governmental problem. There has been evidenced a demand for voluntary plans for insurance against the cost of medical care.

SENATOR MURRAY: Did you make this study at the direction of the General Motors Corporation? MR. COURT: The statement I read was prepared by the Committee on Social Security of the Chamber of Commerce of the United States, you see, and I worked with them and am familiar with and in agreement with their findings.

(*Senator Murray questioned Mr. Court about medical attitudes toward the bill.*)

SENATOR MURRAY: You do not think there is a need for an effort on the part of the government to meet the problem of providing adequate medical care for a great section of our people? MR. COURT: With respect to this group that I have defined and with whom we of the Chamber of Commerce are familiar, the urban residents of the urban northeast, who are employed, there is not the need; and I think I have quite strong evidence to that effect, if you would care to see it.

Statement of James Johnson, Economic Research Department, Chamber of Commerce of the United States

SENATOR DONNELL: Would you tell us briefly about the Chamber of Commerce of the United States? MR. JOHNSON: The Chamber of Commerce of the United States is an organization which represents business men throughout this country. We have approximately 2,300 member organizations, that is, local chambers of commerce and trade associations throughout the United States. We also have an individual membership of persons who belong to local chambers and are members of the United States chamber.

SENATOR DONNELL: Now, Mr. Jackson is the present president, is he not? MR. JOHNSON: Yes, sir.

SENATOR DONNELL: And Senator Hawkes, now in the United States Senate, was a former president? MR. JOHNSON: Yes, sir.

SENATOR DONNELL: And Mr. George Davis of Kansas City, Mo., was president for one or two terms? MR. JOHNSON: Yes, sir.

SENATOR DONNELL: Men of high standing, generally speaking, are and have always been president of that organization? MR. JOHNSON: Yes, sir. Some outstanding business man in the United States has always been elected to the presidency of the organization.

SENATOR MURRAY: The organization represents business men? MR. JOHNSON: Yes, sir.

SENATOR MURRAY: Does it also represent professions? MR. JOHNSON: Yes, sir. Certain professional men who belong to the local boards of trade are also members.

SENATOR MURRAY: Frequently, physicians become presidents of local chambers of commerce? MR. JOHNSON: I presume that is so. I am not familiar with the operation of the local chambers.

SENATOR MURRAY: The different chambers of commerce in the different parts of the country are interested in protecting the interests of the business men who belong to the chamber? MR. JOHNSON: Yes.

SENATOR MURRAY: They, of course, look out for the interests of the utilities like the electric power and gas and light and so forth? MR. JOHNSON: Well, I might say there, Senator, that I believe the protection of the business men, so to speak, which the United States Chamber of Commerce tries to afford is, as we see it, in the interest of the nation rather than of any individual organization.

SENATOR MURRAY: Yes, and in the interest of the nation, the chamber of commerce is opposed to some things that the general public would like to have? MR. JOHNSON: Well, I do not know that that is entirely true. I might explain our policy: our policy is developed by our local organizations. We, as a national organization, do not develop policies. We submit to the vote of our membership certain declarations which are the policy.

SENATOR MURRAY: You are controlled by the local chambers of commerce of the country? MR. JOHNSON: That is right.

SENATOR MURRAY: In the local chambers of commerce of the country, frequently the big corporations of the nation take out a great many memberships in the organization. They call it "multi-membership." You know about that system, do you not? MR. JOHNSON: I am not entirely familiar with that setup, Senator. I am sorry.

SENATOR MURRAY: Well, then, I will tell you, for your information, that in various parts of the country, corporation heads will step into local chambers of commerce and take out a great number of memberships. All of their foremen, shift bosses and different lawyers and so forth, will become members of the chamber of commerce. They will then be able to elect the secretary of the chamber of commerce and dominate its policies.

MR. JOHNSON: With respect to the United States Chamber of Commerce, no one organization or corporation is allowed more than ten votes as a maximum.

SENATOR MURRAY: Of course, these local chambers of commerce in various parts of the country send their representatives to your national meetings? MR. JOHNSON: Yes, I think that is true; that is my understanding, Senator. The United States Chamber of Commerce represents many more of the small business men than they do large businesses.

SENATOR DONNELL: This group that collaborated in the preparation of the statement that has been presented by Mr. Court—how large a group was that? MR. JOHNSON: We have around 18 members on our Social Security Committee.

Further Statement of Andrew T. Court

(Under questioning from Senator Donnell, Mr. Court gave his educational background.)

SENATOR DONNELL: What is the name of your medical director? MR. COURT: Dr. Clarence D. Selby.

SENATOR DONNELL: Will you proceed and tell us of your connection with the United States Chamber of Commerce and how you happened to be in the group that prepared this statement? MR. COURT: I work with Dr. Selby, but my immediate superior is S. M. Dubrell, who is on the Committee on Social Security of the United States Chamber of Commerce; I am seated at his elbow and advise him on the detailed factual information. He is an executive and has quite a number of different things to do, and of course he has to call upon specialized advice from technicians, and I am the technician.

SENATOR DONNELL: Now, Mr. Court, I do not find the exact place, but in general your statement as I recall it was to the effect that, in your judgment, the physician, if not believing in the soundness of the theory of this type of legislation, would not be apt to be as successful in the operation of it as he might otherwise be; is that a correct statement of your view? MR. COURT: Yes. That seems to me to be reasonable. It is a forecast, of course.

SENATOR DONNELL: Generally speaking, Mr. Court, is the experience that your company now has with the Michigan Medical Service and the Michigan hospital service of a satisfactory nature? MR. COURT: Yes. I think every one is very well pleased with the work they are doing, and the employees are quite enthusiastic about it. The only difficulty is that you have this same exaggeration of symptoms and people going into the hospitals, and it is not breaking even. I think you will have to charge more money.

Statement of Leo J. Linder, Chairman, National Committee on Social Legislation, National Lawyers' Guild

MR. LINDER: I have listened to the testimony of Mr. Court this morning, and I have read his testimony; and I should like to say, speaking now as a corporation lawyer interested in business and the interests of business, that I think Mr. Court's statement and the statement of the Chamber of Commerce, do not at all represent the viewpoint of the business men. Certainly they do not represent the viewpoint of the enlightened business men, and as evidence in support of that contention I would like to submit a published statement on Social Security by the National Planning Association, printed as their Planning Pamphlet No. 33, and issued in April 1944.

That statement was approved by all except two of fifty-nine members of committees on National Policy in the fields of agriculture, business and labor, and I should like to note for the record that the business committee which supported this statement is headed by Mr. David C. Prince, chairman, General Electric Company. The vice chairman is Beardsley Ruml, R. H. Macy & Company, and the other members are J. O. Chesley, Aluminum Company of America; A. D. Chiquoine Jr., Batten, Barton, Durstine & Osborn, Inc.; David Craig, American Retail Federation; Guy Emerson, Bankers Trust Company of New York; H. K. Ferguson, the H. K. Ferguson Company; S. T. Henry, McGraw-Hill Publishing Company; S. A. Holme, General Electric Company; Arthur A. Hood, Johns-Manville, Inc.; T. G. McGowan, Akron, Ohio; Anderson Pace, Illinois Central System; Leo H. Rich, Walter Dorwin Teague; Edgar W. Smith, New York; H. C. Sonne, Amsinck, Sonne and Company; Charles J. Stilwell, Warner & Swasey Company, and P. B. Stull, Hercules Powder Company.

In this statement I find a wholly different approach to the problem of social insurance as the means of providing medical care: "Medical care, including facilities for hospitalization and rehabilitation, must be made available to all our people. An expanded program of hospital and health center construction, especially in rural areas, is not only essential if this objective is to be achieved but would also open new avenues of employment. A practical method of overcoming the financial limitations to the purchase of adequate medical care, and one which would be in keeping with the desire of our people to pay their own way as far as possible, would be to make this provision through social insurance."

I should like to note that there is a footnote indicating that one business man, Mr. Craig of the American Retail Federation, disassociated himself from that statement, but all other business men on the Business Committee of the National Planning Association have apparently subscribed to it.

"Under such a program, insured persons and their families would be entitled to medical care, hospitalization and necessary rehabilitation measures, and would pay part of the costs of this service through regular weekly contributions. Service would be rendered by physicians or groups of physicians who signified their willingness to participate in the program, and the methods of payment would be determined by the medical profession in collaboration with the administrator responsible for the program. There is no reason why such a program when carefully devised should interfere with the freedom of the patient to choose his doctor or of the doctor to choose his patients."

And then the statement goes on to make this very effective and very pointed statement in refutation of the whole position of the chamber of commerce:

"Although real progress has been made by voluntary insurance schemes for hospitalization and medical care, these still cover only a fraction of the population. We do not believe that the nation can afford to wait for full coverage to be attained by voluntary insurance. Moreover, it must be remembered that such programs are beyond the financial capacity of many millions of otherwise self-supporting people. Nor do we believe

that action should be delayed until it is possible to develop an ideal program that assures to every participant the high standards of medical care that are now typically enjoyed only by the most wealthy."

It seems to me the Chamber of Commerce spokesmen do the business men of this country a great disservice when they come here to make the proposed program one of evasion, of evasion of the problem.

SENATOR MURRAY: Mr. Linder, before you go into that, the witness who preceded you expressed the idea that where you provide insurance for the lower income groups and make it possible for them, by making small constributions, to get full and complete medical care whenever they think they need it, it has a tendency to induce them to seek too much medical care and too much surgery, and as the result they pine away and die. Do you think there is any merit in that argument?

MR. LINDER: I think that is a slander against the honesty and good faith of the American people. I think it is a slander against the soundness and desire and good faith of most human beings to work and not to malinger and not to be sick. There are frauds. There are malingerers. There are crooks. There are crooks everywhere, but I do not see why we should plan our arrangements for the nation on the assumption that human beings will be dishonest.

I have had occasion to look at the operation of the California Physicians' Service which, I understand, has been presented here in the hearings before this committee as a sort of model system for the nation to follow. And I presume that the chamber of commerce would regard the further cultivation of such schemes as the California Physicians' Service as the model pattern for our nation to follow. I find that the California Physicians' Service after six years of operation reaches about 1 per cent of the people of California. I note the testimony of Dr. Kelly, the Secretary of the California Physicians' Service, before this body on Sept. 18, 19 and 20, 1944, in which he declared that lower income groups did not buy the contracts, obviously because the cost was prohibitive for them. He testified that care for all the people would not be obtained unless they are made to take it, which means some form of compulsion.

I note, on examination of the California Physicians' Service, that the contract which they have now would provide limited medical service only for the employed member of a family of three, limited surgical and hospital service for the other two members of such a family, and that such service would cost $6.30 per month, or $75.60 per year.

When it is realized that such a family might have to spend considerable sums for medical care not provided by the plan, it is obvious that obtaining adequate medical care remains a heavy burden for the low income groups and for the majority of the people of the state.

It seems clear to me that the National Lawyers' Guild is thoroughly right, when it comes to the conclusion that the difficulty with private insurance is that it involves a small pool restricted to a limited group.

To protect the solvency of the fund, these private voluntary plans are usually limited in protection to certain specified medical services, excluding others, and are usually so expensive that they can be afforded only by well-to-do or high-wage-earning persons, and are too expensive in cost to be serviceable for more that a small minority of the American people.

(Mr. Linder made a long attack on the Taft bill.)

(Senator Donnell discussed at much length the significance of the chamber of commerce and the National Planning Association and the significance of the general welfare clause in the Constitution.)

Statement of H. B. Anderson, Secretary, Citizens Medical Reference Bureau, Inc., 1860 Broadway, New York

MR. ANDERSON: The Citizens Medical Reference Bureau, Inc., represents the views of a much larger number of persons than might first seem apparent. It is an outgrowth of the National League for Medical Freedom, which had a membership of more than 200,000 persons, with branches in the different states, and which carried on an active campaign during the years 1910-1916 in opposition to compulsory medication and the centralization of all public health work in Washington, D. C.

In 1916 I was secretary of that organization and editor of the magazine *Medical Freedom*, but by that time it seemed so generally understood that under our form of government health work for the most part was reserved to the respective states that we decided to store the library and other records of the league and close its offices.

Detailed information and documentary evidence in support of our position is set forth in our book: "Public Health the American Way," a copy of which has been forwarded to all members of the United States Senate.

In our opinion the vesting of such extraordinary power in the hands of the Surgeon General, as this bill provides, violates the tenth amendment to the United States Constitution which provides that: "The powers not delegated to the United States by the Constitution, nor prohibited by it to the states, are reserved to the states, respectively, or to the people." There is one fundamental difference between so-called health or sickness insurance on a voluntary basis and a nationwide system of compulsory sickness insurance. Sickness insurance on a voluntary basis involves no medical control of the individual as contemplated by this bill if it were to be enacted into law.

We submit that the federal government has its hands full to carry on its own responsibilities without attempting to take sides on medical controversies having to do with the healing art. Also we submit that any attempt by the federal government to take sides in medical controversies would create a threat to liberty as pronounced as the threat of racial and religious prejudice was in years gone by.

JUNE 21, 1946

HONORABLE JAMES E. MURRAY Presiding

PRESENT: Senators Murray and Donnell.

Statement of Dr. James C. Sargent, Past President, State Medical Society of Wisconsin

DR. SARGENT: The physicians of Wisconsin, in common with their colleagues throughout the country, wish to stress the grave danger that lies in this and similar efforts at revolutionary change in long established medical practice inspired, as they all have been, by a small but well organized and very vociferous group of social planners who are guided in their notions neither by the background of personal contact with the sick nor by a proper regard for the clear record of past experience in the thing that they propose.

I am detailed to appear before you gentlemen not only to record the considered opposition of the physicians of Wisconsin to this bill as written but to any modification of it that this committee might consider which persists in the effort to set up a federal bureaucracy to program and supervise the case of the sick in America. Confronted with a powerful lobby in our state legislature threatening passage of a similar bill to socialize medicine at state level, the physicians of Wisconsin long ago familiarized themselves with the record of sickness care under governmental administration.

(Dr. Sargent summarized the chief objections to S. 1606.)

Without prejudice to the professional conviction that any medical services supplied under bureaucratic management can not possibly compare with the time-honored system of private medical practice either in cost or quality of service, I would point to the fact that title II of this bill, as written, does not provide anything like complete and adequate care of the sick man. Indeed, it fails him when he is in greatest need. Section 210 is devoted to limitations of benefits and its paragraph (c) stipulates that the maximum number of days of hospitalization shall be limited to sixty—unless funds happen to permit extension to one hundred and twenty days.

The great mass of people, particularly with the aid of presently available voluntary hospital and sickness insurance, can well afford the ordinary costs of acute illness. What they can not bear are the catastrophic, long-term illnesses.

The man whose daughter has a broken back, whose wife has a cancer or who himself suffers from disabling arthritis, or from kidney or heart disease is the man who is in genuine need of help.

In like manner, this bill takes a most casual interest in the man sick to the point where he is in need of the costly services of a highly qualified specialist.

Section 205, paragraph (d) specifies that the determination of the need for these superior services shall rest solely with the general practitioner working under the system and an administrative officer of the system. And if extensive past experience with bureaucratic medicine has any lesson at all it is, as Mr. Crownhart points out in his book, that: "The effort of government is always directed toward confining the service so that its cost may fall within the limits of the money that is raised." Gentlemen, under this bill not only are necessary services sharply limited but the limitations become operative just when a sick man has reached the point where he is genuinely in need of assistance.

And finally, nothing in this bill indicates the likely costs to be involved in the supply of "Prepaid Personal Health

Service Benefits." Even in this era of profligate governmental spending, the billions that must be involved should in all fairness be made known to the two parties that will have to carry the costs—the insured man and the taxpayer. And since the total budget must set a ceiling on the amount and quality of sickness care that such a system can afford, the sick man who is to need the "Health Service Benefits" has a clear right to know what monetary guaranties there will be back of him; what price and, therefore, what kind of medical care he is to be furnished when he is in need of it.

Gentlemen, S. 1606 is a bill proposing state medicine, the protestations of its proponent to the contrary notwithstanding. It is a bill calling for socialized medicine in America. It will, if enacted, raise the costs of care of the sick enormously and at the same time cheapen the quality. And worst of all, it proposes a radical departure from the good old doctrine of personal responsibility and free enterprise that has made America and American Medicine so great.

SENATOR MURRAY: Doctor, the supporters of this legislation do not call this "socialized medicine," but they like to refer to it as a system of health insurance whereby the costs of medical care would be greatly reduced for the people of the country, especially those people in the lower income brackets who find it difficult to pay the high cost of modern medical care, and the idea is that it does not interfere with the practice of medicine in any way except to provide a system whereby the recipient of medical care prepays the cost of the care. And you do not claim that this system is anything akin to the socialized medicine system in Russia, do you? DR. SARGENT: No. I do not think it has gone quite as far as the socialization of medical care in Russia, but I think it follows the general pattern of all socialized medical care that has developed over the last fifty years in Europe.

(Dr. Sargent described the plans developed in Wisconsin.)

Statement of the Honorable Andrew J. Biemiller, a Representative in Congress from the State of Wisconsin

CONGRESSMAN BIEMILLER: Senator, I desire to appear only very briefly this morning, partly at the request of the Wisconsin State Federation of Labor, which asked me if I would appear and make clear their support of the legislation now pending before your committee and their belief that the majority of the people of the state of Wisconsin are in favor of the bill. They have also asked me to bring along a resolution adopted at the Midwest Workshop Health Conference, held in St. Paul, Minn., Feb. 6, 7, 8 and 9, 1946, which was attended rather broadly by representatives of the A. F. of L., C. I. O., Railroad Brotherhoods and Farmers' Cooperatives of the states of Wisconsin and Minnesota. And I submit that for the record. I have requested, as I think you know, that toward the end of these hearings, if you have time available, I may come in when we are freer over on our side of the House and have a chance to present lengthy testimony. SENATOR MURRAY: I would be glad to give you that opportunity.

SENATOR DONNELL: Did I understand you to state, when you referred to the sentiment of the majority of the people of Wisconsin as being in favor of the bill, that that is what is stated by the Federation of Labor, or are you testifying to that? CONGRESSMAN BIEMILLER: Both.

SENATOR DONNELL: What investigation have you made, Representative Biemiller, to ascertain the opinion of the people of Wisconsin on this question? CONGRESSMAN BIEMILLER: Senator, I was a member of the state legislature for three terms.

SENATOR DONNELL: Yes, sir. CONGRESSMAN BIEMILLER: I introduced a good many measures dealing with health legislation, one of which was health insurance, which was debated rather widely throughout the country. Obviously, the bill did not pass, or it would have become law at this time.

SENATOR DONNELL: The majority of the legislature did not favor that at that time? CONGRESSMAN BIEMILLER: The majority of the legislature did not, but I have spoken extensively around the state. I have been in constant contact with leaders of the farm groups and the labor groups particularly throughout the state, and I am convinced, on the basis of my own personal observations, that the majority of the people of that state do favor the enactment of a health insurance bill.

SENATOR DONNELL: Of course, there has been no poll taken of the people of the state of Wisconsin, so far as you know? CONGRESSMAN BIEMILLER: Not as far as I know.

SENATOR DONNELL: And your contacts were largely with the labor and farm bureau groups; is that correct? CONGRESSMAN BIEMILLER: That is correct.

SENATOR DONNELL: Mr. Biemiller, how long have you been a member of Congress? CONGRESSMAN BIEMILLER: This is my first term.

SENATOR DONNELL: Are you acquainted with Mr. Isadore Falk? CONGRESSMAN BIEMILLER: Yes. I have known Mr. Falk some time.

SENATOR DONNELL: Have you worked with him at all in connection with problems of this general type? CONGRESSMAN BIEMILLER: Not to any great extent. I have occasionally conferred with him during a period of a decade.

Statement of Dr. Otto Fiedler, Past President, State Medical Society of Wisconsin

DR. FIEDLER: As is Dr. Sargent, I am a past president of the State Medical Society and a current member in good standing. I have served for many years on committees and subcommittees of the State Medical Society and the American Medical Association.

I want to differ with my colleague on behalf of many doctors in the state and on behalf of many thousands of people in the state who, through their organizations, have indicated support for the Wagner-Murray-Dingell bill.

Many doctors are in favor of such a program in spite of the stand of the American Medical Association. The president of the American College of Surgeons and the president of the American Physicians College feel it is high time that something is done about it.

Personally, I do not think that voluntary insurance will solve the problem. I presume most of you who are listening to me carry hospital insurance. Undoubtedly, many of you carry health insurance and accident insurance. But you know as well as I do that the very poor class will not take voluntary insurance because if they had any desire to do so, they would already have it. If the opponents of this measure say "Why a policy plan? Why not leave it to the state governments?"—we reply that we have had some experience in leaving matters of this kind go to the state governments. Those of us who are at all familiar with the facts know that in the South, the appropriation from the taxes for this sort of thing is very meager. Even for education, some states in the South spend less than a fifth as much per capita for education as is spent in the North, and the South is more in need of it.

In the state of Wisconsin, the medical society has just gone on record as approving the plan of voluntary insurance, under which seven or eight insurance companies will write a limited health policy. Its provisions are totally inadequate. It provides only for treatment in the hospital for surgical and obstetric care, but leaves out entirely medical care either in the office or in the home or anywhere else, and the cost of this abbreviated, aborted program is almost as much as total coverage under a general federal plan would be.

This has caused a division in the state medical societies. The Milwaukee County Society had already entered into negotiations with Blue Cross Hospital Association under which the Associated Hospitals would write a policy with about the same provisions, and did not care to change. They did not accept the state plan, nor did the County Society of Racine, or Kenosha, and my own Sheboygan Society has rejected the plan. The general idea of an insurance coverage for medical care is accepted by the American people. Surveys made in all the states of the Union have clearly demonstrated that the large majority of the people favor prepayment plans for complete coverage. Even the National Physicians' Committee for the distribution of medical care, engaged in the surveys of public hospital research in New Jersey, found, to their surprise, that 63 per cent of the people polled were in favor of a plan of medical care on an insurance basis.

My contention is that only a federal system such as is outlined in the Wagner-Murray-Dingell bill will provide needed medical care to all the people everywhere in the United States, and by doing so will help us to accomplish another of the four freedoms: freedom from want; freedom from fear. This system will lead to a healthier, happier, less worried and more efficient citizenry.

SENATOR DONNELL: Doctor, you referred to the presidents of the American College of Surgeons and the American Physicians College feeling that "it is high time that something is done about it." I do not know what you mean. Do you mean those gentlemen have expressed themselves in favor of compulsory national health insurance? DR. FIEDLER: No. Dr. J. A. Means was president there.

SENATOR DONNELL: Pardon me? DR. FIEDLER: Dr. J. A. Means of Harvard was president of the American College of Surgeons.

SENATOR DONNELL: Yes. DR. FIEDLER: And he stated in his annual address several years ago that certainly the American public were not getting the medical care to which they were entitled, and he felt that something had to be done in order to solve this problem.

SENATOR DONNELL: Did he express himself at that time as being in favor of compulsory national health insurance? DR. FIEDLER: No.

SENATOR DONNELL: Has he ever expressed himself as being in favor of national compulsory health insurance? DR. FIEDLER: I do not know.

SENATOR DONNELL: Who is president of the Physicians' College. DR. FIEDLER: I have forgotten. He was a surgeon from the University of Toronto, at the time.

SENATOR DONNELL: When was it he expressed himself along the line you indicate in your statement? DR. FIEDLER: 1933 or 1934.

SENATOR DONNELL: Did he express himself as being in favor of compulsory health insurance for the United States? DR. FIEDLER: No.

Statement of Dr. Russell A. Dixon, Chairman, Committee on Educational Extension of the National Dental Association

DR. DIXON: Though we do not agree, it is not difficult to understand the view of a practitioner of a minority group (especially the Negro) who, having witnessed unfair distribution of other public funds in his own community or state and having been supplied with scare propaganda on a so-called "political machine" and "social medicine with a vengeance" and other propaganda against this constructive form of social legislation, (S. 1606) would naturally feel that out of self interest he must oppose such measures as are implicit in the National Health Act on the alleged ground that this is political medicine, that the profession is being placed under the control of the state, that it is losing its independence and that the standards of practice will be lowered and for other dubious causes too numerous to be mentioned here.

This questionable emphasis on politics in relation to the objects of S. 1606 is odd, to say the least, in a nation whose foundation is based on the control of its affairs "by the people." There has been and always will be abuses in many governmental operations, their extent being wholly dependent on the integrity of the persons entrusted with their administration.

So also, are there numerous abuses perpetrated under the present plan of private practice. This again is dependent on the observance of the ethical standards of the profession and the integrity of the individual practitioner.

Therefore, there is no stopgap which will serve as an absolute guaranty as to the kind of health service which will be administered to the trusting public, whether by federal aid or individual practice, or that will eliminate the human elements involved. To this end, I would say that the political emphasis placed on this bill is merely the proverbial "red herring" dragged in to arouse generalized suspicion and fear within the ranks of the profession.

(To be continued)

Coming Medical Meetings

Annual Congress on Industrial Health, Boston, Sept. 30-Oct. 3. Dr. Carl M. Peterson, 535 N. Dearborn St., Chicago 10, Secretary.

American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Hot Springs, Va., Sept. 5-7. Dr. James R. Bloss, 418 Eleventh St., Huntington 1, W. Va., Secretary.

American Congress of Physical Medicine, New York, Sept. 4-7. Dr. Richard Kovacs, 2 East 88th St., New York 28, Secretary.

American Diabetes Association, Toronto, Canada, Sept. 16-18. Dr. Cecil Striker, 630 Vine St., Cincinnati 2, Secretary.

American Roentgen Ray Society, Cincinnati, Sept. 17-20. Dr. H. Dabney Kerr, University Hospital, Iowa City, Iowa, Secretary.

Colorado State Medical Society, Estes Park, Sept. 11-14. Mr. Harvey T. Sethman, 1612 Tremont Place, Denver 2, Executive Secretary.

District of Columbia, Medical Society of the, Washington, Sept. 30-Oct. 2. Mr. Theodore Wiprud, 1718 M Street N. W., Washington 6, Secretary.

Kentucky State Medical Association, Paducah, Sept. 30-Oct. 3. Dr. P. E. Blackerby, 620 S. Third St., Louisville, Secretary.

Michigan State Medical Society, Detroit, Sept. 25-27. Dr. L. Fernald Foster, 2020 Olds Tower, Lansing 8, Secretary.

Mississippi Valley Medical Society, St. Louis, Sept. 25-27. Dr. Harold Swanberg, 510 Maine St., Quincy, Ill., Secretary.

National Medical Association, Louisville, Ky., Aug. 20-23. Dr. John T. Givens, 1108 Church St., Norfolk 10, Va., Secretary.

Oregon State Medical Society, Gearhart, Sept. 26-28. Dr. Thomas S. Saunders, 1020 S.W. Taylor St., Portland 5, Secretary.

Utah State Medical Association, Salt Lake City, Aug. 29-31. Dr. D. G. Edmunds, 610 McIntyre Bldg., Salt Lake City, Secretary.

Washington State Medical Association, Spokane, Aug. 19-21. Dr. A. J. Bowles, 218 Cobb Bldg., Seattle, Secretary.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

ALABAMA

Medical College Acquires Full Ownership of Jefferson Hospital.—The Medical College of Alabama, Birmingham, has now acquired, under full ownership of the University of Alabama, the relatively new $4,000,000 Jefferson Hospital in Birmingham. This institution will become the teaching hospital of the medical school. It will house both private and charity patients. The total bed capacity is 700. Final acquisition of the hospital came after Governor Chauncey Sparks relieved an outstanding indebtedness of $1,200,000. This was followed immediately by transfer of the Jefferson Hospital, Hillmann Hospital, outpatient department and Nurses' Home to the Medical College of Alabama from Jefferson County, the former owners.

CALIFORNIA

Directory with Photographs.—The Los Angeles County Medical Association is compiling a new directory of its members. An unusual feature is the reproduction of a small photograph of the physician with his directory information.

Memorial to Bacteriologist.—Plans have been announced for the endowment of a hospital bed to the memory of the late Theodore D. Beckwith, Ph.D., professor of bacteriology, University of California at Los Angeles. The memorial will be set up by Mrs. Cornelia Beckwith and four children. Dr. Beckwith died July 18, aged 66.

Personal.—Dr. Edwin H. Lennette, attached to the virus laboratory, California State Department of Public Health, Los Angeles, as a member of the staff of the International Health Division of the Rockefeller Foundation, has been appointed director of the division of microbiologic research at Camp Detrick, Frederick, Md.——Dr. Perry J. Melnick, formerly of Chicago, recently released from military service, has been appointed associate professor of pathology at the University of Southern California Medical School, Los Angeles.

Changes in Health Personnel.—Dr. John L. Parker, Brawley, has been named health officer of Imperial County, succeeding Dr. Miriam Hubbell, El Centro. Dr. James L. Dennis, Merced, has been appointed health officer of Merced County, suceeding Dr. Bruce E. McDowell. Dr. Allen E. Priest, formerly of Klamath Falls, Ore., has been named health officer of Lassen County, succeeding Dr. James W. Crever Jr., Susanville. Dr. Crever will continue to act as health officer for the city of Susanville. Dr. Lester J. Sawyer, San Francisco, is the new health officer of the city of Belvedere.

DISTRICT OF COLUMBIA

Physician Sentenced for Abortion Charge.—Dr. Milton L. T. Grant, Washington, was recently found guilty in 2 cases of abortion, according to the Commission on Licensure of the Healing Arts Practice Act. In the first case he received a sentence of one to three years. In the second he received a sentence of six months to one and one-half years, said sentence to take effect at the expiration of the sentence imposed in criminal case number 76362. His license to practice medicine and surgery in the District of Columbia was revoked by the court on May 27.

FLORIDA

Graduate Teaching Begun.—On June 12 the department of medicine of the graduate school of the University of Florida, Gainesville, started a program of graduate medical education. The program is the result of the benefits derived from the graduate short course, which this year held its fourteenth session under the auspices of the Florida Medical Association. The new program is also the result of negotiations which started in 1942 between the postgraduate committee of the state medical association and the president of the University of Florida, J. J. Tigert, LL.D. The summer teaching will run until October 1, when the winter session will start, to continue for nine months. No tuition will be charged until October 1, but on this date advance registration will be required. Physicians graduated at recognized schools who have passed the examination of the state board of medical examiners and are

known to be ethical practitioners will be admitted for registration. Residents of hospitals may register with the approval of the hospital in which they are serving. The faculty consists of physicians who are members of the Florida Medical Association from various cities of the state.

GEORGIA

Special Society Elections.—Dr. Millard E. Winchester, Brunswick, was recently elected president of the Georgia Public Health Association, succeeding Dr. Abram Davis, Swainsboro. —Dr. Wilborn E. Upchurch, Atlanta, was recently named president-elect of the Georgia Urological Association and Dr. Rudolph Bell, Thomasville, was installed as president. Dr. Reese C. Coleman Jr., Atlanta, is secretary-treasurer.

State Association Names First Lay Honorary Member.—Robert Foster Maddox, a member of the state board of health since 1914, was elected an honorary member in the Medical Association of Georgia at its meeting in Macon in May. He is the first layman to be chosen as an honorary member of the association. In addition to other civic positions, Mr. Maddox has been president of the Atlanta Chamber of Commerce and mayor of Atlanta.

Scholarship Named for Physician.—At a recent meeting of the board of directors of the Thomas A. Edison Foundation in Washington, D. C., the Murdock S. Equen Scholarship was created in honor of Dr. Equen, Atlanta, 1944 recipient of the foundation's gold award for achievement. The scholarship is permanent and "is named for Dr. Equen in view of his great achievement in science and laryngology and his contribution to the development and use of the Alnico magnet for the removal of foreign bodies from the stomach and lungs."

IDAHO

Personal.—Dr. Lynn J. Lull has returned to his position as director of local health service and medical consultant for the Idaho Department of Public Health, Boise. Dr. Lull had been lent to act as superintendent of the State Hospital, South, at Blackfoot, whose management has now been taken over by a state hospital board. Dr. Harold E. Dedman is chairman of the hospital board and Dr. Harvey H. Brown superintendent of the hospital.

INDIANA

Octogenarians Celebration.—The three oldest physicians in Wayne County, Drs. Charles S. Bond, Richmond; Marcus L. Meek, Abington, and Joseph N. Study, Cambridge City, were honored by the Wayne-Union County Medical Society in Richmond, June 13. Dr. Bond is 90 years of age, Dr. Meek is 90 and Dr. Study is 95. Dr. Bond was president of the Indiana State Medical Association in 1895. Dr. George S. Bond, professor of cardiology, Indiana University School of Medicine, Indianapolis, and son of the guest of honor, addressed the gathering on "Heart Failure and Its Management."

MISSISSIPPI

New Medical Education Board Awards Scholarships.—On July 19 the recently organized Mississippi State Medical Education Board awarded five scholarships under the state's new program of assisting students in the study of medicine. The five recipients are Fred P. Sage, Drew; John R. Mullins Jr., Clarksdale, and Roy L. Smith, Utica, all accepted for first year's work at the University of Tennessee College of Medicine, Memphis; Nina B. Goss, Jackson, accepted at Tulane University of Louisiana School of Medicine, New Orleans, and George D. Copeland, Sanatobia, who has completed one year at the University of Mississippi School of Medicine, University, and plans to continue there, then to Vanderbilt or Washington universities. The Mississippi State Medical Education Board was created by recent legislation to receive and pass on applications for loans or scholarships by students who are residents of the state and who desire to become physicians. The purpose of the loans is to enable the applicants to obtain a standard four year medical education which will qualify them to become licensed practicing physicians and surgeons in the state. At its recent meeting the board emphasized that financial aid under this program is provided only for students who have completed premedical college courses and have been accepted by an approved medical school. It was pointed out that this interpretation should clarify any misunderstanding by high school students that financial aid is intended for students in premedical college courses. Both single and married veterans of World War II are eligible for scholarships, the amount of financial aid to veterans depending on need shown, as for all other applicants for loans. It was also pointed out that a scholarship recipient, following entrance into medical practice, must serve in a community of 5,000 or less for two years before being eligible to pay off the loan, one fifth of which, plus interest thereon, is to be credited to the young physician for each year of practice in his profession. The Mississippi State Medical Education Board is composed of Dr. David S. Pankratz, dean, University of Mississippi School of Medicine, University, chairman; Dr. Felix J. Underwood, executive officer, Mississippi State Board of Health, Jackson, vice chairman; Dr. James K. Avent, the Grenada Clinic, Grenada; Mrs. H. H. Ellis, past president, Mississippi Federation of Women's Club, Meridian, and Mr. W. H. Braden, superintendent of schools, Natchez. Mrs. Maria Voskamp is executive secretary of the board, which has offices in Room 37, North Street Building, Jackson.

MISSOURI

Faculty Changes at Washington.—Philip A. Shaffer, Ph.D., retiring dean of Washington University School of Medicine, St. Louis, has been appointed distinguished service professor of biologic chemistry. Dr. Robert A. Moore, St. Louis, is the acting dean (THE JOURNAL, August 3, p. 1162). Other changes include the appointment of Dr. Carl F. Cori, professor of biologic chemistry, as head of the department of biologic chemistry, and Dr. Hallowell Davis, formerly of Boston, as research professor of otolaryngology and associate professor of physiology. Dr. Davis is also the director of research for the Central Institute for the Deaf. Promotions include:

Dr. Carl V. Moore, professor of medicine.
Dr. Richard S. Weiss, professor of clinical dermatology.
Dr. Henry G. Schwartz, professor of neurologic surgery.
Mildred Trotter, Ph.D., professor of anatomy.
Dr. James L. O'Leary, professor of neurology.
Alfred D. Hershey, Ph.D., associate professor of bacteriology and immunology.
Dr. Wendell G. Scott, associate professor of clinical radiology.

A course in hospital administration will open at Washington University on September 16 with the medical school, the school of business and public administration and Barnes Hospital, supervising instruction with other facilities in the university being utilized.

NEBRASKA

Midwest Annual Assembly.—The fourteenth annual assembly of the Omaha Midwest Clinical Society will be held at the Hotel Paxton, Omaha, October 28-November 1.

New Professor of Pediatrics.—Dr. John H. Murphy, associate professor of pediatrics, Creighton University School of Medicine, Omaha, was on June 26 promoted to professor and head of the department. He succeeds Dr. Floyd S. Clarke, who resigned as head of the department after holding the position for twenty-six years. He will continue as professor of pediatrics.

NEW JERSEY

State Health Congress Proposed.—A group of interested agencies is planning the formation of a state health congress. Dr. Stanley H. Nichols, Asbury Park, chairman of the public health committee of the Medical Society of New Jersey, was named temporary president of the temporary organization which has been created and Mr. John Hall, executive secretary of the New Jersey Health and Sanitary Association, was elected temporary secretary. The temporary organization will draw up a constitution and by-laws to develop the state health congress. The *Journal* of the Medical Society of New Jersey points out that while there are many health agencies in New Jersey there is not an organization which focuses squarely on the distribution of health care, nor does any existing group unite both the producers and the consumers of these services. To avoid duplicating the work of other organizations, it was felt that the immediate problem on which such an organization could concentrate would be the distribution of health services in all their aspects. Included among the membership of the state health congress will be representatives of the Medical Society of New Jersey, State Dental Society, New Jersey Pharmaceutical Association, American Legion, State C. I. O., New Jersey Hospital Association, New Jersey Department of Health, State Department of Institutions and Agencies and New Jersey Health and Sanitary Association with the addition of representatives from the State Grange, State Federation of Labor and the State Chamber of Commerce. It is not planned that the new organization will engage in elaborate surveys of health needs or cover any of the purely technical aspects of health care, since both these functions are already well served by existing agencies, but rather to utilize services already available and thereby establish principles to assure a better

distribution of all health services to the people in New Jersey, adopt recommendations to implement these principles and use whatever machinery is at its disposal to inform the public of its findings and recommendations.

NEW YORK

Mary Kirkbride Retires.—On June 30 Mary B. Kirkbride, Sc.D., retired as associate director of the division of laboratories and research, New York State Department of Health, Albany, after thirty-two years' service in the department. Dr. Kirkbride joined the department in 1914, serving first as bacteriologist, then in charge of the antitoxin, serum and vaccine laboratories and later as associate director. Dr. Kirkbride has been secretary of the New York Association of Public Health Laboratories since it was organized in 1920.

Camp for Diabetic Children in Permanent Home.—The New York Diabetes Association, Inc., has bought a 40 acre tract at Burlingham with well equipped buildings and a 10 acre lake for the permanent home of Camp Nyda, the special camp for diabetic children. Until this summer, during the eleven years' existence of the camp, a place had been rented for the children who are given four weeks at Camp Nyda, said to be the only free camp in this area to which diabetic children are admitted. Sixty children were finishing a four week period at the new home July 28, the New York *Times* reported. Among the seven buildings on the property are a girls' dormitory, boys' dormitory, medical building, recreation hall and quarters for the staff of thirty-five. In addition to cooks, counselors and cleaning men and women, there are two resident physicians, six nurses, a dietitian and two student dietitians. The costs are defrayed entirely by voluntary subscriptions and contributions. Any one wishing to contribute should make funds payable to the New York Diabetes Association, Inc., 2 East 103d Street, New York 29, N. Y. Dr. Herman O. Mosenthal is medical director of the camp.

New York City

Study of Unidentified Fever.—Dr. Robert J. Huebner, attached to the division of infectious diseases, National Institute of Health, Bethesda, Md., is assisting in a study of fever which is said to be unidentified and which has affected about 40 persons in a sporadic outbreak in the boroughs of Queens and the Bronx, newspapers reported July 25. The press stories refer to the disease as an "undiagnosed spotted fever."

James McCormack Given Administrative Promotion.—Dr. James E. McCormack, assistant to the dean of New York University College of Medicine since 1944, has been appointed assistant dean of the college, it was announced July 31. In addition to assisting in the general administrative work of the college, Dr. McCormack will have particular responsibility for advising students and helping them with their individual problems. Dr. McCormack, who will continue as instructor in medicine, has been a member of the teaching staff of the college since 1942, receiving his M.D. degree there in 1939.

OKLAHOMA

Hospital Superintendent Honored.—Dr. and Mrs. David W. Griffin were recently guests of honor at the annual dinner of the Cleveland County Medical Society and its Woman's Auxiliary in tribute to the forty-seven years Dr. Griffin has served as medical superintendent of the Central Oklahoma State Hospital, Norman. Dr. Griffin, who was elected to the Oklahoma Hall of Fame in 1935, graduated at the University College of Medicine, Richmond, in 1899 and became superintendent of the Central Oklahoma State Hospital the same year.

PENNSYLVANIA

Judge Upholds Contract Between Physicians.—The Allentown *Evening Chronicle*, June 26, reported that Dr. Eugene J. Morrissey, Bethlehem, had instructed his attorneys to withdraw his exceptions filed in Northampton County courts June 7 to a decision handed down by Judge William A. Frack restraining him from practicing orthopedic surgery in Northampton and Lehigh counties. The action was taken just before the court, *en banc*, prepared to hear arguments in the case. Proceedings were started by Dr. Clement R. Hanlon, also of Bethlehem, against Dr. Morrissey on the grounds that when Dr. Morrissey sold his practice to Dr. Hanlon five years ago he agreed never to practice orthopedic surgery in the two counties while Dr. Hanlon was practicing, except in the capacity of chief surgeon at the Bethlehem Steel Company plant, Bethlehem. Judge Frack had upheld the validity of the agreement.

WASHINGTON

Changes in Health Personnel. — Dr. Howard L. McMartin, formerly of Phoenix, Ariz., has been appointed Snohomish County health officer, succeeding Dr. Charles R. Mueller Jr., who was transferred by the U. S. Public Health Service.——Dr. Conrad E. Rosdahl, Spokane, has been appointed health officer of Kittitas County, succeeding L. H. Walker, D.D. Dr. Harold B. Stout, Brewster, has resigned as health officer of Douglas County. Dr. Sam Sparhawk, Burlington, Vt., has been placed in charge of the Lewis-Pacific Counties Department of Health.——Dr. Harold Marks, Springfield, Ill., has been named health officer of Pierce County.——Dr. B. Willis Johnson, Everett, has been named health officer of Everett to succeed Dr. William D. Smith, resigned.

State Medical Meeting.—The fifty-seventh meeting of the Washington State Medical Association will be held at the Davenport Hotel, Spokane, August 18-21, under the presidency of Dr. George H. Anderson, Spokane. Included among the speakers will be:

Drs. Kenneth K. Sherwood and Bruce M. Zimmerman, Seattle, Office Management of Chronic Arthritis.
Dr. Nathan K. Rickles, Seattle, An Evaluation of Modern Psychiatric Procedure in Acute Mental Disease, with a Five Year Report on 200 Private Cases.
Dr. Roger Anderson, Seattle, Anchored Cast Method of Treatment Controlled Mobilization for Fracture and Orthopedic Surgery.
Dr. James Haviland, Seattle, Sulfonamide Therapy.
Dr. Edwin G. Bannick, Seattle, Penicillin.
Dr. Charles E. Watts, Seattle, Streptomycin.
Dr. Norman W. Clein, Seattle, The Growth and Development of Allergy—Study of 100 Allergic Children from Birth to Puberty.
Dr. Edward L. Turner and Ernest M. Jones, D.D.S., Seattle, Developments of Medical and Dental School respectively.
Dr. James E. S. Stroh, Seattle, Benadryl.
Mr. Edward F. Stegen, Chicago, Compulsion—the Key to Collectivism.
Dr. George F. Lull, Secretary and General Manager, American Medical Association, Chicago, Accomplishments of the American Medical Association.

One symposium on chest conditions arranged by Dr. Byron F. Francis, Seattle will be presented by Drs. James F. Blackman, Seattle, on "Aspects of Respiratory Physiology as Pertains to Chest Injuries, Demonstrated with Model Thorax"; Howard B. Kellogg, Seattle, "Early Decortication of the Lung in Clotted Hemotherax and Empyema," and Robert F. Foster, Seattle, "Observations and Recent Information on the Spread of Air Borne Diseases." A panel discussion of the diagnosis and therapy of malignant disease will be offered by Drs. Donald V. Trueblood, Seattle; Milo T. Harris, Spokane, and Clyde R. Jensen, Seattle, and one on rheumatic fever by Drs. Vernon W. Spickard, Seattle; Frederick R. Fischer, Spokane; Percy F. Guy, Seattle, and Willard B. Rew, Yakima. A panel discussion on obstetric analgesia will be conducted by Drs. Jean D. Kindschi, Raymond E. Gillett and Richard D. Reekie, all of Spokane.

WISCONSIN

Course in Clinical Allergy.—Marquette University School of Medicine, Milwaukee, will sponsor an orientation course in clinical allergy under the auspices of the American Academy of Allergy, October 7-11. Inquiries should be addressed to Dr. Eben J. Carey, dean, Marquette University School of Medicine, Milwaukee 3.

Llewellyn Cole Named to New Post.—After a year's leave of absence Dr. Llewellyn R. Cole has returned to the University of Wisconsin Medical School, Madison, to continue as professor of clinical medicine and to hold the new position of coordinator of graduate medical education. In his new position Dr. Cole's primary responsibility will be the correlation and organization of graduate instruction, including refresher courses such as are now offered and others. His duties will embrace various phases of public health information and will permit him to continue as director of the state medical society's radio series, the March of Medicine.

ALASKA

Tuberculosis Program.—Dr. Leo J. Gehrig, Mopeming, Minn., assistant surgeon, U. S. Public Health Service, has been lent to the Territorial Department of Health in Alaska to serve as consultant in tuberculosis control. According to *Northwest Medicine*, it is planned to establish a central office for public health supervision of tuberculosis and to coordinate work of interested groups. A case finding program is also planned.

Health Department Has New Boat.—A new health boat has been secured from war surplus to be used by the territorial department of health in visiting the outlying villages in southeastern Alaska. This boat has been named *Hygiene*, the same as the first boat owned by the department. With its

size, the boat being over 100 feet long, the personnel and equipment which it will be able to carry, it will be much easier than before to serve diagnostic and health study needs of the villages.

GENERAL

Conference on Eye Health and Safety.—The National Society for the Prevention of Blindness, 1790 Broadway, New York 19, will hold a three day conference on eye health and safety at the Hotel Pennsylvania, New York, November 25-27.

Executive Secretary Named for Women's Association.—Mrs. Francis Mercer, Apartment 406, 3300 West End Avenue, Nashville 5, is the new executive secretary of the American Medical Women's Association. Mrs. Mercer will also serve as advertising and business manager of the association's journal.

Charles Cameron Joins Cancer Society.—Dr. Charles S. Cameron Jr. has been appointed assistant scientific and medical director of the American Cancer Society. Dr. Cameron, who graduated at Hahnemann Medical College and Hospital of Philadelphia in 1935, was, before he entered the navy, Rockefeller fellow at Memorial Hospital for Treatment of Cancer and Allied Diseases, New York.

Red Cross Appointments.—Dr. Frank E. Wilson, Concord, N. C., has been appointed deputy national medical director of the American National Red Cross, it was announced July 8. Miss Ruth Freeman, associate professor of preventive medicine and public health at the University of Minnesota, has been appointed national administrator of the American National Red Cross Nursing Services.

John Ferree Joins Hygiene Association.—Dr. John W. Ferree, until recently in charge of the venereal disease control section, Bureau of Medicine and Surgery, U. S. Navy, has been appointed director of the division of education and special projects of the American Social Hygiene Association. Dr. Ferree entered the navy from his position as state health officer of Indiana (THE JOURNAL, Nov. 2, 1940, p. 1561; Nov. 14, 1942, p. 851).

Committee on Pharmaceutical Survey.—W. W. Charters, Ph.D., director, Research Service, Stephens College, Columbia, Mo., was selected as chairman of the Committee on Pharmaceutical Survey at its first meeting at the Hotel Statler, Washington, D. C., June 26. The committee was selected by the American Council on Education in accordance with the plans for the national study of pharmaceutical education, practices and services (THE JOURNAL, June 8, p. 544).

First National Instrumentation Conference and Exhibit.—Organization of the first National Instrumentation Conference and Exhibit, sponsored by the Instrument Society of America, is now practically completed. All sessions of the conference and exhibit will be held at the William Penn Hotel, Pittsburgh, September 16-20. Fourteen sessions of the conference have been scheduled by the Instrument Society of America and three sessions have been arranged by the instruments and regulators division of the American Society of Mechanical Engineers.

New Borden Award.—The Borden Company Foundation, 350 Madison Avenue, New York 17, has established a Borden Award in medical sciences to be administered by the Association of American Medical Colleges. The award will consist of $1,000 in cash and a gold medal. It will be used for recognition of outstanding research which has been carried out by a member of the faculty of a medical school which is a member of the Association of American Medical Colleges and will be made for research an account of which has been published during the preceding calendar year. Since membership in the association of American Medical Colleges includes medical schools of the United States and Canada, faculty members in both countries will be eligible.

Special Society Elections.—Dr. Edward Weiss, Philadelphia, is the new president of the American Society for Research in Psychosomatic Problems. Dr. Adolf Meyer, Baltimore, continues as honorary president. The office of president-elect was left vacant at the last election and will probably remain so until the next annual meeting of the society. Dr. Edwin G. Zabriskie, New York, continues as secretary-treasurer. The offices of the society are located at 714 Madison Avenue, New York 21. Ann Miner is the general secretary.——Dr. Clarence R. O'Crowley, Newark, N. J., was recently elected president of the American Association of Genito-Urinary Surgeons. Other officers include Dr. Arthur H. Crosbie, Boston, vice president, and Dr. Charles C. Higgins, Cleveland, secretary-treasurer.——At the meeting of the Western Association of Industrial Physicians and Surgeons in San Francisco, June 30, Dr. John D. Ball, Santa Ana, Calif., was elected president and Dr. William P. Shepard, San Francisco, vice president. Other officers include Dr. James M. McCullough, Crockett, Calif., treasurer, and Dr. Rodney R. Beard, San Francisco, secretary.

Biological Photographic Association.—The sixteenth convention of the Biological Photographic Association, Inc., will be held at the Hotel Bismarck, Chicago, September 6-8, under the presidency of Dr. Stanley McComb, Rochester, Minn. Among the speakers on the program will be:

Irving Rehman, Los Angeles, High Speed X-Ray Motion Picture Studies.
Mr. C. Graham Eddy, Washington, D. C., Medical Illustration Program of the United States Veterans Administration.
Thomas G. Hull, Ph.D., Chicago, Preparation of Scientific Exhibits.
Mr. Charles Wilson, Chicago, Photography as Applied to Crime Detection.
Major Carrol Naidorf, Washington, D. C., Classifying, Indexing and Filing Medical Illustration Material.
Mr. Mervin La Rue and Mr. Richard W. Kleidon, Chicago, Let's Make a Medical Motion Picture.
Mr. Warren Sturgis, New York, Present Day Uses of the Motion Picture.
Miss Evastine Lust, Chicago, Visual Education Program at Northwestern University Medical School.
Dr. Paul Holinger and Mr. J. D. Brubaker, Chicago, Endoscopic Photography of the Ear, Nose and Throat.
Mr. John A. Maurer, Chicago, Color Balance in Photomicrography.
Oscar Richards, Ph.D., Buffalo, Phase Photomicrography.
Mr. Tom Jones, Chicago, The Association of Medical Illustrators.
Mr. H. L. Gibson, Rochester, N. Y., Kodak Dye Transfer Process (a demonstration).
Mr. G. L. Royer and C. Maresh, Bound Brook, N. J., Color Photography of Fluorescent Phenomena.
Mr. William Payne, Buffalo, Photography of the Oral Cavity.

Dr. Morris Fishbein, Chicago, Editor of THE JOURNAL, will address the banquet Saturday evening on "An Editor's Views of Medical Illustration."

Health Survey in Coal Mining Areas.—Rear Admiral Joel T. Boone, medical corps, U. S. Navy, is directing an all inclusive survey and study of hospital and medical facilities, medical treatment, sanitation, community facilities and housing in the coal mining areas of the country. The survey stems from negotiations between the United Mine Workers of America and the bituminous coal operators, March 12, when the health and welfare of the miners and their families had been one of the chief points of controversy. Mr. Julius A. Krug, Secretary of the Interior, has authorized Admiral Boone to utilize the services of the U. S. Bureau of Mines, the U. S. Public Health Service and the Public Works Administration in the survey. Commodore Charles T. Dickeman, civil engineer corps, U. S. Navy, is serving as consultant to Admiral Boone for engineering matters. Thomas H. Rickman Jr., United States Naval Reserve, Washington, D. C., is welfare and recreational adviser to the medical survey. These officers are working under the direction of Vice Admiral Ben Moreell, coal mines administrator. Navy experts in health and sanitation are assisting in the study, as are prominent civilian experts in the fields of industrial hygiene, sanitation, housing, hospitalization, and welfare and recreation, and state, county and municipal officials in order to gather all facts necessary to work out a higher standard of living conditions in the mining areas wherever needed. The survey will determine the steps necessary to establish medical, housing and sanitary facilities in the mining areas that will bring them up to the standards recognized as proper for American communities. Teams of experts will study local conditions in various areas, and their reports will be evaluated by a medical study group in Washington. Each team will consist of a medical officer, housing officer and welfare and recreational officer. On July 23 in a radio broadcast at Fort Smith, Ark., where one team of experts was working on the new project, Admiral Boone recounted how the navy was assigned to the study. He recalled the navy's participation and settlement of the petroleum dispute in 1945, leading to a similar responsibility in 1946 when President Truman, by executive order, directed that the mines be taken over by the federal government and set up the coal mines administration in the U. S. Department of Interior with a navy man in charge as a federal coal mines administrator.

Interim Commission of World Health Organization.—Dr. Andrija Stampar of Yugoslavia was elected chairman of the Interim Commission of the World Health Organization, succeeding Dr. Feodor G. Krotkov of Russia, who had to return to Moscow, during the concluding sessions of the World Health Conference in New York July 22 (THE JOURNAL, August 3, p. 1164). Dr. George B. Chisholm, Ottawa, Canada, was elected executive secretary. Vice chairmen of the commission are Dr. Szeming Sze, China; Aly T. Shousha Pasha, Egypt, and Dr. Octavio S. Mondragon, Mexico. The Interim Commission will meet every four months, the next session to be held in Geneva or Paris in the fall. The constitution for the World Health Organization was signed by sixty-one

nations. The only signatures that were equivalent to ratification, however, were those of the United Kingdom and Chinese delegates. Before the World Health Organization is established, twenty-six member states of the United Nations must formally ratify the constitution. This requires legislative action in most countries, but quick ratification is expected. Any urgent health problems that may arise before the organization gets under way, plus the work of setting up the organization, is being handled by the Interim Commission. Nations elected members of the commission are the United States, Egypt, Canada, Norway, Venezuela, the Netherlands, China, the United Kingdom, France, Brazil, the Soviet Union, Yugoslavia, India, Peru, all of which composed the assembly's steering commission, and Australia, Mexico, Liberia and the Ukraine. At a meeting of the Interim Commission's committee on administration and finance, provisional budget estimates of $300,000 for 1946 and of $1,000,000 for 1947 were adopted, the budget to be submitted to the secretary general of the United Nations. Plans to reopen the Singapore bureau and establish an eastern division of the World Health Organization for obtaining epidemiologic information were also studied. The World Health Organization, formed in a conference called by the Economic and Social Council of the United Nations, will function, according to Dr. Thomas Parran, surgeon general, U. S. Public Health Service, who served as chairman of the conference, as "a collective instrument which will promote physical and mental vigor, prevent and control disease, expand scientific health knowledge and contribute to the harmony of human relations." It will direct the functions of existing intergovernmental health agencies, assume the functions of the League of Nations Health Organization, of l'Office International d'Hygiène Publique and the epidemiologic intelligence functions of the health division of UNRRA and integrate the Pan American Sanitary Bureau as a regional office.

Academy of Occupational Medicine Formed.—On June 26 at a meeting in the Hotel New Yorker, New York, the American Academy of Occupational Medicine was organized to improve the health of industrial workers, with improvement in occupational efficiency as a corollary. Cooperating with acceptable agencies that may further either directly or indirectly the physiologic well being of the employed population, the foundation will foster the prevention, diagnosis, treatment and general care of occupational illnesses or injuries and institute research to encourage a better understanding of the pathogenesis of industrial diseases and improvement in methods of prevention and care. The results of these activities will be made available to interested groups. Officers of the new academy include Drs. George H. Gehrmann, Du Pont Company, Wilmington, Del., president; Donald O. Hamblin, American Cyanamid Company, New York, vice president; James M. Carlisle, Merck & Co., Inc., Rahway, N. J., secretary, and Melville H. Manson, American Telephone & Telegraph Company, New York, treasurer. Membership in the new academy will be of four types: active and honorary members, fellows and fellows emeritus. An applicant for membership, except honorary, must have a license to practice medicine, membership in the American Medical Association or in some other group recognized by the Council on Medical Education and Hospitals of the American Medical Association and must indicate his chief interest to be demonstrably in the field of occupational medicine. Special prerequisites have been set up to qualify applicants for membership, including written and oral examinations. In addition to the officers elected at the recent meeting the following are charter members:

Dr. Arthur G. Cranch, Union Carbide & Carbon Company, New York.
Dr. E. E. Evans, Dye Works Hospital, Deepwater, N. J.
Dr. John H. Foulger, Haskell Laboratory, Du Pont Company, Wilmington.
Dr. Leroy U. Gardner, Saranac Laboratory for the Study of Tuberculosis, Saranac Lake, N. Y.
Dr. Augustus Gibson, Merck & Co., Inc., Rahway, N. J.
Dr. Leonard Goldwater, department of occupational medicine, Columbia University College of Physicians and Surgeons, New York.
Dr. Leonard Greenburg, New York State Department of Labor, New York.
Dr. Frank M. Jones, Canadian Industries Ltd., Montreal, Canada.
Dr. Robert A. Kehoe, University of Cincinnati College of Medicine, Cincinnati.
Dr. A. F. Mangelsdorff, Calco Chemical Division, Bound Brook, N. J.
Dr. Carey P. McCord, 10 Peterboro Street, Detroit.
Dr. W. D. Norwood, P. O. Box 100, Richland, Wash., % General Electric Company.
Dr. Carl Peterson, Secretary, Council on Industrial Health, American Medical Association, Chicago.
Dr. John J. Prendergast, Chrysler Corporation, Detroit.
Dr. William A. Sawyer, Eastman Kodak Company, Rochester 4, N. Y.
Dr. Louis Schwartz, U. S. Public Health Service, Bethesda, Md.
Dr. James H. Sterner, Clinton Engineer Works, Tennessee Eastman Corporation, Knoxville 5, Tenn.
Dr. James J. Waring, 227 16th Street, Denver.

Prevalence of Poliomyelitis.—Reports of cases of poliomyelitis for the periods indicated have been received from the division of public health methods, U. S. Public Health Service, as follows:

Division and State	July 27, 1946	July 28, 1945	Median, 1941-45	Total to July 27, 1946	Total to July 28, 1945
New England States:					
Maine	0	6	0	4	19
New Hampshire	2	2	0	27	9
Vermont	0	2	0	9	9
Massachusetts	4	13	2	13	47
Rhode Island	0	0	0	0	1
Connecticut	6	11	3	29	36
Middle Atlantic States:					
New York	30	72	11	180	375
New Jersey	5	32	3	41	127
Pennsylvania	11	16	8	53	55
East North Central States:					
Ohio	38	14	11	111	79
Indiana	11	2	2	37	27
Illinois	66	3	6	210	41
Michigan	13	8	8	47	25
Wisconsin	18	0	0	42	9
West North Central States:					
Minnesota	188	0	2	366	9
Iowa	17	2	2	73	11
Missouri	38	2	2	121	29
North Dakota	11	0	0	18	6
South Dakota	5	0	0	24	1
Nebraska	33	0	1	72	4
Kansas	36	4	4	126	24
South Atlantic States:					
Delaware	1	0	0	2	5
Maryland	6	8	3	17	28
District of Columbia	0	5	1	2	25
Virginia	6	22	3	23	94
West Virginia	2	1	1	15	19
North Carolina	3	2	3	44	42
South Carolina	1	7	2	15	80
Georgia	16	4	4	67	47
Florida	20	6	3	382	38
East South Central States:					
Kentucky	4	3	11	40	24
Tennessee	6	29	15	29	121
Alabama	18	9	9	187	85
Mississippi	25	1	1	95	24
West South Central States:					
Arkansas	18	0	2	92	17
Louisiana	18	6	3	149	26
Oklahoma	33	12	4	103	55
Texas	52	40	8	504	459
Mountain States:					
Montana	3	1	1	35	5
Idaho	1	0	0	3	2
Wyoming	4	2	0	14	3
Colorado	48	1	0	226	12
New Mexico	6	0	1	35	5
Arizona	9	1	0	29	5
Utah	5	11	2	18	35
Nevada	0	0	0	0	9
Pacific States:					
Washington	11	9	1	76	48
Oregon	9	1	1	20	8
California	52	21	13	351	184
Total	915	391	361	4,176	2,439
30 weeks	4,176	2,439	2,316	4,176	2,439

Correction: Arkansas, poliomyelitis, weeks ended June 1 and June 8, 1946, 0 and 1 case respectively (instead of 1 and 2).

Physicians Literary Guild.—Dr. James C. Janney, Boston, was elected president of the American Physicians Literary Guild at its meeting in San Francisco, July 5. Other officers include Drs. Charles H. Best, Toronto, Ont., Martin Gumpert, New York, Earle P. Scarlett, Calgary, Alb., and Frederick L. Patry, Albany, N. Y., vice presidents; Dr. Francis H. Redewill, San Francisco, secretary; Dr. Paul P. E. Michael, Piedmont, Calif., treasurer, and Dr. Frederick M. Loomis, Piedmont, Calif., editor. The American Physicians Literary Guild is a group that was organized this year (THE JOURNAL, March 16, p. 728) to encourage physicians to submit their writings for competition consideration. At the first exhibition of the various works submitted in San Francisco recently, first prizes were given to:

Dr. Samuel D. Allison, Honolulu, Hawaii, "I Confess," short story.
Dr. Suren H. Babington, Berkeley, Calif., President's Cup, "Mesa, Gods and Tom-Toms"; first prize, "Meeting Dineh, The People."
Dr. Anthony Bassler, New York, Secretary's Cup, "An Eastside Newsboy at the Opera."
Dr. Best, "Banting Memorial Lecture."
Dr. James A. Brussel, New York, "Buried by Beans," play.
Dr. Harry G. Bull, Ithaca, N. Y., "The Spider and The Wasp."
Dr. Julius C. Buscher, St. Cloud, Minn., "Women At War," 3 parts, essays.
Dr. Egon V. Ullmann, Portland, Ore., "The Death of Hippocrates."
Dr. Thomas W. Clarke, Utica, N. Y., "The Downs and Ups of Anson Jones, M.D."
Lieut. Comdr. Albert V. Cutter (MC), Topeka, Kan., "John Rawlings—NP Casualty."
Dr. William A. Edler, Pasadena, Calif., "Syko-Ann-Alice," play.
Dr. Morris Fishbein, Chicago, honorary first prize, "Editorial."
Dr. Boris E. Greenberg, Boston, "The Unborn Tomorrow," play.
Dr. Percy L. Goitein, New York, "The Plaint of Melancholy," poem.

Dr. Frank S. Gordon, Blairstown, N. J., "Evolution of Man as Revealed in His Art of Painting."
Dr. Gumpert, honorary first prize, "The Future of Old Age."
Dr. Alexander Hamilton, Frankfort, Ind., "The Doctor's Masquerade."
Dr. Hugh M. Hart, New Wilmington, Pa., "An Obstetrical Rubaiyat," poem.
Dr. Richard A. Herron, Honolulu, Hawaii, "Sleeping Child," poem.
Dr. Janney, "Foreword for Book 1 of Guild."
Dr. Dudley D. Krupp, Fort Riley, Kan., "The Vagabond Doctor," biography.
Dr. Bernard Klein, Joliet, Ill., "The Mighty Link," essay.
Dr. Loomis, honorary first prize, "Paid in Full," novel.
Dr. Richard E. Marcus, San Antonio, Texas, "West Texas Portfolio," poems.
Dr. Alvin R. Miller, Seattle, "The Lesson of Genghis Khan," essay.
Dr. Joseph I. Pascal, New York, "If You Must Wear Glasses, Wear Invisibles."
Dr. Redewill, grand prize, Max Thorek Cup, "Any Physician Can Paint"; first prize, "Health and Happiness."
Dr. Francis J. Scully, Hot Springs, Ark., "The Flora of Hot Springs National Park."
Dr. Henry T. Sigerist, Baltimore, "Letter of Acceptance."
Dr. Max Thorek, Chicago, honorary first prize, "Photographs as an Avocation for Physicians."
Dr. Harold R. Wainerdi, Boston, "Lyrics for a Cadaveric Suite."
Dr. Abner I. Weisman, Fort Thompson, S. D., "Let's Marry and Have Babies," monograph.

In order to have the manuscripts in the hands of the editor in time to publish a guild volume before the annual session of the American Medical Association in Atlantic City in June 1947, entries for the next exhibit should be submitted to the secretary, Dr. Francis H. Redewill, 526 Flood Building, San Francisco, by Jan. 2, 1947. Over three hundred articles were submitted for exhibition at the War Memorial Opera House in San Francisco, July 1-5.

LATIN AMERICA

Health Activities in Latin America.—*Personal.*—Dr. E. Harold Hinman, former chief of field party in Mexico, was given a dinner May 3 by health and public welfare officials. Dr. Hinman was presented with the Eduardo Liceaga Medal and a citation eulogizing his contributions to Mexican public health.

Society News.—Dr. Gregorio Aráoz Alfaro was recently elected president of the Academia Nacional de Medicina. Other officers include Dr. Carlos Bonorino Udaondo, vice president, and Dr. Florencio Etcheverry Boneo, secretary general.—— Dr. Luis F. Ajamil has been elected president of the Sociedad Cubana de Urologia.

Visitors to the United States.—Dr. Juan Boggino, former rector of the National University, Asuncion, Paraguay, and at present professor of pathology at that institution, is visiting universities and medical centers in the United States at the invitation of the Department of State under its program of cultural cooperation with the other American republics. Dr. Boggino is primarily interested in acquainting himself with medical schools, their organization and methods of instruction, with university organization in general, and especially with work that is being done in clinical pathology in this country.

Surgical Congress.—The third Inter-American Congress of Surgery will be held in Montevideo, Uruguay, October 1-6, under the auspices of the Superior Government of the Republic. The official speakers and their topics will include Dr. Clivio V. Nario, surgery of gallducts: sequels and complications; Dr. Victor Armand Ugon, surgical treatment of cancer of esophagus, and Dr. Jose L. Bado, treatment and complications of fractures of pelvis. Information may be obtained from the secretary general of the society, Agraciada 1464-P. 13.

Association of Latin American Health Educators Proposed.—Plans are going forward to develop a health education section at the twelfth Pan American Sanitary Bureau Conference in Caracas, Venezuela, in September, according to the *Newsletter* of the Health and Sanitation Division, Institute of Inter-American Affairs, resulting, it is hoped, in the creation of an association of health educators in the Americas. The committee on health education appointed for the conference consists of Aristides A. Moll of the Pan American Sanitary Bureau, Dorothy B. Nyswander, Ph.D., of the Inter-American Educational Foundation, and Carley M. Derryberry, Ph.D., of the U. S. Public Health Service.

Congress on Cardiology.—There will be an Inter-American Congress of Cardiology in Mexico City, October 6-12. The meetings will be held in the Institute of Cardiology. This congress is being sponsored by the Inter-American Society of Cardiology and the National Societies of Cardiology of the continent. Prominent European cardiologists have been invited to attend. The American Heart Association has been designated as the representative of this congress in the United States, and all applications to participate in the scientific meetings or to attend as guests should be addressed to the American Heart Association, 1790 Broadway, New York 19.

Congress for Neurosurgery.—The second South American Congress of Neurosurgery will be held in Santiago, Chile, in April 1947. Additional information may be obtained from Dr. Alfonso Asenjo, Secretary General of the Executive Committee and Director of the Central Institute of Neurosurgery and Neuropathology, Pabellón Cushing, Santiago, Chile.

FOREIGN

Gordon Seagrave Plans Visit to United States.—Dr. Gordon Seagrave, Nampham, Burma, author of two best sellers, Burma Surgeon and Burman Surgeon Returns, plans a visit to America in October and will engage in a three months lecture tour throughout the United States. Earnings from the lectures will be used by Dr. Seagrave in the rebuilding and extending of his hospital and medical work in the Northern Shan States of Burma. Dr. Seagrave, who has devoted his entire life to relieving misery among people of this jungle region, must begin almost all over again in order to repair the ravages that war has inflicted on his hospital, equipment and essential services, all ruined during the Japanese occupation.

Government Services

Veterans Administration Appointments

Dr. John W. Towey, medical superintendent of the Pinecrest Sanitarium, Powers, Mich., for the last twenty-five years, has been appointed chief of the tuberculosis division for the Columbus branch office of the Veterans Administration. Dr. Towey will be in charge of all technical and administrative aspects of the tuberculosis program in Veterans Administration hospitals of Ohio, Michigan and Kentucky.——Dr. Leo F. Steindler, who has been associated with the Veterans Administration for more than twenty-five years, has assumed his new duties as chief medical officer for the Veterans Administration regional office at Huntington, W. Va. Offices for the present will be maintained at the Veterans Hospital in that city. Dr. Steindler, who is a veteran of World War I, succeeds Dr. Paul R. Copeland, chief medical officer of the Veterans Hospital in Huntington, W. Va., who has been acting chief medical officer for the Veterans Administration regional office for the past several months. Dr. George W. Windsor, North Carolina, just recently released from military service, has been named administrative assistant to Dr. Steindler and has reported for duty at Huntington.

Report on Cancer Facilities

A report on cancer facilities and services has just been released by the U. S. Public Health Service and contains recommendations of a special committee of the National Advisory Cancer Council concerning medical education and cancer control programs. The report contains four parts, medical education in cancer, basic elements of a cancer program, basic information for use in studying and planning state cancer control activities, and summary recommendations. Recommendations made by the committee include those for more comprehensive and better integrated courses in cancer at medical schools, an increase in the number of centers prepared to give postgraduate training in cancer and the continuation and expansion of the various kinds of cancer education activities for practicing physicians that have been conducted in a number of communities. The committee further recommends that the National Cancer Institute aid in the development of a few cancer centers strategically located geographically, associated with one or more medical centers and available to any patient regardless of ability to pay. It is suggested that such centers would serve as guides in developing plans that could be applied anywhere in the country to insure to cancer patients the best that medical science has to offer in the way of diagnosis and treatment. Expansion of the research work of the National Cancer Institute is advised, including the training of research fellows and the program of grants to aid research in other institutions. Also recommended is assistance from the National Cancer Institute to state health departments and other agencies in developing programs which will make available in a state an adequate cancer service. A special committee was appointed in November 1944 by Dr. Thomas Parran, Surgeon General, U. S. Public Health Service, Washington, D. C., in anticipation of a postwar increase of cancer controlled activities.

Deaths

Robert Cary Jamieson ✦ Detroit; Detroit College of Medicine, 1903; born in Detroit in 1881; professor of dermatology and syphilology at his alma mater, now known as the Wayne University College of Medicine; specialist certified by the American Board of Dermatology and Syphilology; member of the American Dermatological Association and the American Academy of Dermatology and Syphilology; served as president of the Wayne County Medical Society, 1935-1936, secretary from 1910 to 1912 and a trustee from 1936 to 1941; twice president of the Detroit Dermatological Society; editor of the *Detroit Medical News*, 1917-1918; for many years on the staffs of the Herman Kiefer Hospital, Receiving Hospital and the Harper Hospital, where he died April 17, aged 64, of carcinomatosis.

Samuel Reily Norris ✦ Colonel, U. S. Army, retired, Pasadena, Calif.; Washington University School of Medicine, St. Louis, 1912; Army Medical School, 1917; Medical Field Service School, Advanced Course, 1934; entered the medical reserve corps of the U. S. Army as a first lieutenant in 1916 and the medical corps of the U. S. Army in 1917; served during World Wars I and II; served in France, Germany, China and Panama in addition to various assignments of duty in the United States; retired Feb. 29, 1944 for physical disability; died in the U. S. Army Regional Hospital Nov. 17, 1945, aged 60, of cerebral hemorrhage.

Joseph John Allevato, Winfield, Mo.; St. Louis University School of Medicine, 1929; member of the American Medical Association; on the staff of St. Joseph's Hospital, St. Charles; died in the Deaconess Hospital, St. Louis, April 14, aged 51, of cerebral hemorrhage.

Mary Ella Ash, Galva, Ill.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1903; died in St. Petersburg, Fla., April 20, aged 71, of cerebral hemorrhage.

George Hans Boetel, Omaha; John A. Creighton Medical College, Omaha, 1907; served as Douglas County physician and on the staff of the Immanuel Hospital; died May 14, aged 63, of chronic congestive heart disease.

William David Bowen, Richmond, Va.; College of Physicians and Surgeons, Baltimore, 1893; died May 15, aged 78, of heart disease.

Charles R. Bridgett, Philadelphia; Medico-Chirurgical College of Philadelphia, 1902; member of the American Medical Association; special lecturer for the narcotic division of the state board of health; died May 10, aged 70, of coronary thrombosis.

Ralph Emerson Case, McKeesport, Pa.; University of Michigan Homeopathic Medical School, Ann Arbor, 1908; died March 1, aged 64, of lymphosarcoma.

Xavier Francis Circelli, Brooklyn; New York Homeopathic Medical College and Flower Hospital, New York, 1926; member of the American Medical Association; for many years associated with the health department; on the staff of the Bushwick Hospital; died May 13, aged 45.

James Munrow Daves, Blue Ridge, Ga.; Atlanta Medical College, 1886; member of the American Medical Association; served as mayor of Blue Ridge; member of the council and county physician; died April 12, aged 85, of heart disease.

Henry Joseph Dern, Chicago; Rush Medical College, Chicago, 1898; member of the American Medical Association; died in the South Chicago Hospital May 23, aged 71, of cerebral hemorrhage.

Edgar Razor Donnald, Honea Path, S. C.; Vanderbilt University School of Medicine, Nashville, Tenn., 1910; on the staff of the Anderson County Hospital, Anderson; bank president; died April 6, aged 60, of coronary thrombosis.

John Boring Gibbs, Burnsville, N. C.; Tennessee Medical College, Knoxville, 1901; North Carolina Medical College, Davidson, 1904; died April 24, aged 74, of cardiorenal vascular disease.

George W. Glaspel ✦ Grafton, N. D.; State University of Iowa College of Medicine, Iowa City, 1888; for many years member of the county insanity board; city health officer; on the staff of the Grafton Deaconess Hospital; died June 27, aged 81, of cerebral hemorrhage.

William Elphege Gouin ✦ Bellmore, N. Y.; Tufts College Medical School, Boston, 1928; diplomate of the National Board of Medical Examiners; formerly deputy medical examiner of the county; died April 5, aged 41.

John D. Graul, St. Louis; University of Louisville (Ky.) Medical Department, 1894; member of the American Medical Association; died April 6, aged 74, of arteriosclerosis.

Fred Clarke Gunter ✦ Belmont, Mass.; Tufts College Medical School, Boston, 1914; served during World Wars I and II; formerly chief of staff of the Robert Breck Brigham Hospital in Boston; on the courtesy staff of the Brooks Hospital in Brookline; died in the Veterans Administration Facility in Boston, April 24, aged 54, of traumatic subdural hemorrhage.

Thomas Powell Haslam ✦ Council Grove, Kan.; University of Nebraska College of Medicine, Omaha, 1924; at one time on the faculties of the Medical College of Virginia, Richmond, and the Baylor University College of Medicine, Dallas, Texas; died in Emporia April 15, aged 62, of virus pneumonia.

Sheridan C. Heighway, Murphy, N. C.; Medical College of Ohio, Cincinnati, 1885; member of the American Medical Association; died April 24, aged 89, of cerebral hemorrhage.

Frank Price Ivy, West Point, Miss.; Memphis (Tenn.) Hospital Medical College, 1904; owned and operated the Ivy Hospital; member of the American Medical Association; died in Montgomery, Ala., April 3, aged 66, of heart disease.

Edward Joseph Jackson, Waterbury, Conn.; Tufts College Medical School, Boston, 1919; member of the American Medical Association; for many years affiliated with St. Mary's Hospital; died in New Haven April 14, aged 51, of multiple abscesses of brain and pleural empyema.

Louis Clive Jacobs ✦ San Francisco; University of California Medical Department, San Francisco, 1904; member of the American Urological Association; on the staff of the Mount Zion Hospital, where he died April 29, aged 66, of carcinoma of the pancreas.

William Ziporkes Jerome, New York; Cornell University Medical College, New York, 1903; member of the American Medical Association; adjunct professor of otolaryngology at the New York Polyclinic Medical School and Hospital; specialist certified by the American Board of Otolaryngology; on the staffs of the St. Elizabeth Hospital and the Mother Cabrini Memorial Hospital, where he died April 1, aged 64, of cerebral hemorrhage.

George Luther Johnson, Newfolden, Minn.; Milwaukee Medical College, 1910; formerly Marshall County representative in the legislature; died in the University Hospital, Minneapolis, April 19, aged 69, of perforation of the gallbladder into the transverse colon.

Charles John Kerr, Knox, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1897; died recently, aged 75, of influenzal pneumonia.

Archibald Donald Kessler ✦ Huntington, W. Va.; University of Louisville School of Medicine, 1924; fellow of the American College of Surgeons; past president of the Cabell County Medical Society; died suddenly June 26, aged 48, of heart disease.

Vincent Anthony Lapenta ✦ Indianapolis; Regia Università di Napoli Facoltà di Medicina e Chirurgia, Italy, 1906; decorated as knight commander of the Order of the Crown of Italy and received the same decoration from Rumania; served as president of the staff and surgeon in chief at the St. Francis Hospital in Beech Grove, where he died April 20, aged 63, of cerebral hemorrhage and hypertensive heart disease.

Walter Sibley Lawrence, Memphis, Tenn.; Vanderbilt University School of Medicine, Nashville, 1900; professor of radiology at the University of Tennessee College of Medicine; member of the American Medical Association and American Roentgen Ray Society; specialist certified by the American Board of Radiology, Inc.; consulting radiologist, John Gaston and Methodist hospitals; died July 6, aged 78, of heart disease.

Arthur John Lind ✦ Kansas City, Kan.; College of Physicians and Surgeons, Medical Department of Kansas City University, 1901; died March 2, aged 67.

Jesse E. Long ✦ Minneapolis; Rush Medical College, Chicago, 1882; an Affiliate Fellow of the American Medical Association; died in the Eitel Hospital April 30, aged 87, of hemorrhage from a duodenal ulcer.

James O'Gorman Lopez, New Orleans; Tulane University of Louisiana School of Medicine, New Orleans, 1941; member of the American Medical Association and the Mississippi State Medical Association; interned at the Southern Baptist Hospital; served a residency at the E. A. Conway Hospital in Monroe, La., and the Charity Hospital; died in Sanatorium, Miss., April 12, aged 32, of tuberculous meningitis.

William Joseph McGrath ✠ Elkader, Iowa; Rush Medical College, Chicago, 1895; served as president of the Austin-Flint Cedar Valley Medical Society; physician for the county draft boards during World Wars I and II; president of the Central State Bank and Trust Company; died in Warren, Ill., April 8, aged 74, of coronary occlusion.

Raphael William MacGregor ✠ Flint, Mich.; University of Michigan Medical School, Ann Arbor, 1924; fellow of the American College of Surgeons; member of the Flint Academy of Surgery and the Detroit Academy of Surgery; on the staffs of the Women's, Hurley and St. Joseph hospitals; died April 14, aged 47, of coronary occlusion.

Butler Metzger ✠ Lynn, Mass.; Harvard Medical School, Boston, 1897; on the staff of the Union Hospital; died April 25, aged 72, of massive cerebral hemorrhage.

Joseph Charles W. Midkiff, El Paso, Texas; Louisville (Ky.) Medical College, 1892; died April 14, aged 80, of chronic endocarditis.

Clifford Devere Miller, Charlottesville, Va.; University of Virginia Department of Medicine, Charlottesville, 1942; died April 27, at the University of Virginia Hospital, aged 36, of tuberculous pneumonia.

John Daniel Miller, New York; Hahnemann Medical College and Hospital of Philadelphia, 1903; served during World War I; resident physician at the Charles B. Towns Hospital; died April 5, aged 67, of coronary thrombosis.

Remus Cook Morris, Fort Atkinson, Wis.; Rush Medical College, Chicago, 1902; member of the American Medical Association; on the staffs of the St. Mary's Hospital in Watertown and the Fort Atkinson Memorial Hospital; died April 9, aged 70, of heart disease.

Orry Charles Morrison, Carroll, Iowa; State University of Iowa College of Medicine, Iowa City, 1910; member of the American Medical Association; served as city health officer for twelve years and had also served as health officer for several of the townships in the county; formerly member of the board of education; district surgeon for the Chicago and Northwestern Railway Company and the Chicago Great Western Railroad Company; on the staff of St. Anthony Hospital, where he died April 2, aged 62, of coronary disease.

Mack J. Mosely, Galveston, Texas; Meharry Medical College, Nashville, 1913; died July 3, aged 59, of carcinoma.

Katharine Stanislaus Munhall, Buffalo; Woman's Medical College of Pennsylvania, Philadelphia, 1893; member of the American Medical Association; died April 15, aged 84, of cerebral hemorrhage.

James Daniel Murphy, Mount Vernon, N. Y.; Bellevue Hospital Medical College, New York, 1898; served during World War I; died March 21, aged 72, of arteriosclerosis.

Leonard DeWitt Murphy, Lobelville, Tenn.; University of Tennessee College of Medicine, Memphis, 1911; died April 1, aged 70, of cerebral hemorrhage.

Andrew C. Nickell, Hazel Green, Ky.; Kentucky School of Medicine, Louisville, 1894; died April 27, aged 83, of uremia.

Walter F. O'Connor ✠ Ladysmith, Wis.; Detroit College of Medicine, 1897; served as president of the Rusk County Medical Society; on the staff of St. Mary's Hospital; died April 25, aged 71, of fatty degeneration of the liver due to diabetes mellitus.

Cornelius Frank Ormes, Jamestown, N. Y.; New York Homeopathic Medical College and Hospital, New York, 1900; member of the American Medical Association; died recently, aged 71, of carcinoma of the testis.

Howard Wilber Peirce, Detroit; Detroit College of Medicine, 1904; assistant professor of clinical otolaryngology at his alma mater, now known as the Wayne University College of Medicine; specialist certified by the American Board of Otolaryngology; member of the American Academy of Ophthalmology and Otolaryngology and the American Medical Association; past president of the Detroit Otolaryngological Society; on the staff of the Harper Hospital; died April 17, aged 65, of coronary thrombosis.

Hiram Edgar Pintler, Peoria, Ill.; the Hahnemann Medical College and Hospital, Chicago, 1895; member of the American Medical Association; served during World War I; died in the Peoria State Hospital April 24, aged 76, of carcinoma of the sigmoid.

Frank James Piper, Framingham, Mass.; Tufts College Medical School, Boston, 1924; member of the American Medical Association; began active duty as a lieutenant commander in the medical corps, U. S. Naval Reserve, Oct. 5, 1942; promoted to commander; served as a flight surgeon at Guadalcanal, the Admiralties and the Philippines; service terminated in February 1946; formerly president of the staff and assistant to the surgical service of the active staff of the Framingham Union Hospital, where he died April 4, aged 47, of chronic nephritis.

John Joseph Franklin Points, New Orleans; Medical Department of Tulane University of Louisiana, New Orleans, 1903; died in Hotel Dieu April 8, aged 68, of coronary thrombosis and diabetes mellitus.

Herman Richard Rahner, Erie, Pa.; University of Toronto Faculty of Medicine, Toronto, Ont., Canada, 1923; member of the American Medical Association; on the staffs of the Hamot and St. Vincent's hospitals; died April 10, aged 51, of heart disease.

Thomas Morton Raines, Wakefield, Va.; Medical College of Virginia, Richmond, 1907; died April 4, aged 72, of abscesses of the lungs.

Henry Louis Rapp, Louisville, Ky.; University of Louisville Medical Department, 1897; member of the American Medical Association; at one time professor of chemistry at his alma mater; member of the staff of St. Joseph Infirmary; died April 15, aged 74, of carcinoma of the esophagus.

Rafael Requena, New York; Universidad Central de Venezuela Escuela de Ciencias Médicas, Caracas, Venezuela, 1904; died in the Flower and Fifth Avenue Hospitals April 20, aged 66, of hypertensive cardiovascular disease.

William Rice, Kansas City, Mo.; University Medical College of Kansas City, 1897; member of the American Medical Association; served as medical examiner for the Prudential Life Insurance Company and the John Hancock Insurance Company; died in the Trinity Lutheran Hospital April 10, aged 75, of hemiplegia and pneumonia.

Evelyn Sarah Pettit Roberts, Oberlin, Ohio; Cleveland Medical College, Homeopathic, 1894; died April 24, aged 84, of myocardial degeneration.

Fred M. Sandifer, Greenwood, Miss.; Medical Department of Tulane University of Louisiana, New Orleans, 1900; member of the American Medical Association; served as county health officer; owner of the Greenwood Colored Hospital; consultant, Greenwood-Leflore Hospital; died April 15, aged 68, of pneumonia.

Robert Bass Scales, Blowing Rock, N. C.; University of Pennsylvania Department of Medicine, Philadelphia, 1894; served overseas during World War I; died in the Davis Hospital, Statesville, April 28, aged 74, of myocarditis and nephritis.

Hyman I. Schenker, Philadelphia; Temple University School of Medicine, Philadelphia, 1910; for many years affiliated with the medical division of the board of education; died April 13, aged 64, of carcinoma of the liver and intestinal obstruction.

Samuel Emanuel Schwartz ✠ Butte, Mont.; Columbia University College of Physicians and Surgeons, New York, 1896; past president of the Silver Bow County Medical Society; served during World War I; on the staff of St. James Hospital; died in New York recently, aged 70, of carcinoma.

Charles Beverley Shortlidge, Media, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1898; died March 18, aged 77, of chronic myocardosis.

Wolfgang Max Ferdinand Sulzbach, Belmont, Mass.; Rheinische Friedrich-Wilhelms-Universität Medizinische Fakultät Bonn, Prussia, Germany, 1933; member of the American Medical Association; diplomate of the National Board of Medical Examiners; specialist certified by the American Board of Psychiatry and Neurology, Inc.; affiliated with the McLean Hospital; died recently, aged 37.

Clark Anson Wilcox ✠ Wichita Falls, Texas; New York Homeopathic Medical College and Flower Hospital, New York, 1916; specialist certified by the American Board of Radiology; member of the Radiological Society of North America, Inc., and the American College of Radiology; at one time an officer in the regular U. S. Army; served as president of the Texas Radiological Society; on the staff of the Wichita Falls Clinic-Hospital; died April 4, aged 56, of leukemia.

Isaac Max Wilzin, New York; Columbia University College of Physicians and Surgeons, New York, 1895; served during World War I; for many years medical examiner for the Metropolitan Life Insurance Company; died in St. Petersburg, Fla., April 25, aged 72, of coronary thrombosis.

Seals Leftwich Whitely ✠ Cedartown, Ga.; Tulane University of Louisiana School of Medicine, New Orleans, 1906; founder and medical superintendent of the Whitely Hospital; died recently, aged 65, of coronary occlusion.

Foreign Letters

LONDON

(From Our Regular Correspondent)

July 6, 1946.

The Development of Endocrinology

The Royal Society of Medicine has established a new section devoted to endocrinology. The inaugural address of the president, Sir Walter Langdon-Brown, who has long held a foremost place in the exposition of the clinical aspects of endocrinology, was read for him in his absence. He traced the development of endocrinology from 1891, when a committee was appointed to investigate the cause of myxedema, and G. R. Murray showed that the bloated condition of a patient was not due to failure of excretion but to failure of the internal secretion of the thyroid gland. The next phase was the discovery of adrenal extract and its use in the treatment of Addison's disease. The discovery of pituitary injection gave the final blow to the excretory theory of endocrine glands. The discovery of secretin in 1902 was full of theoretical interest but proved disappointing therapeutically. In 1905 Starling brought forward his "hormone" theory, meaning a stimulant of chemical origin acting at a distance. Then the theory of independent autonomous glands was replaced by that of an integrated endocrine system. Sir Walter ventured to call the pituitary "the leader of the endocrine orchestra," though later it transpired that the hypothalamus held the still more important rank of "conductor of that orchestra." The search for pituitary hormones was too amply rewarded, for at least eleven were described. Meanwhile the clinician was receiving valuable help from the organic chemist, as when Dodds showed the importance of a basal group which could be modified to form different hormones and their close relation to stimulators of irregular growth—the carcinogenic substances.

The lecturer then reviewed the biology of the endocrine system. The enormous energy developed in the zygote provided the impetus which carried the organism on its passage through life. At that moment growth was at its maximum and then a steady decline followed. As Hopkins shrewdly pointed out, the function of life is to hold up that dissipating energy at a useful level. For twenty years or more interest has concentrated on the quality rather than on the quantity of growth. At an early stage the graft of embryonic tissue from the dorsal lip of the blastophore can impose its inherent potentialities on a new environment and induce a neural canal in any part of the embryo. Later the implant has to accept the structural development of its host. Clearly specialization of organizing material has begun. It has been shown by Needham that the organizer is a sterol, reminding us of the chemical structure of certain hormones. Hormones appeared before the glands that were to house them, and comparative morphology suggested that many of these once had a more primitive function.

The Causation of Rheumatic Fever

In an address to the Section of Preventive Medicine at the congress of the Royal Sanitary Institute Professor J. A. Ryle surveyed recent progress in our knowledge of rheumatic fever. He said that evidence is steadily accumulating that Streptococcus pyogenes (or certain of its serologic types) is the infective agent. Sore throats or upper respiratory infections commonly precede the rheumatic attack, and epidemics of streptococcic sore throat have often been accompanied or followed by epidemics of rheumatic fever with carditis in a proportion of cases. Serologic reactions in rheumatic children support the theory of an initiating streptococcic infection. There is growing evidence of the efficacy of sulfonamides when used prophylactically to prevent rheumatic recurrence, though they have no beneficial effect on the rheumatic attack.

There is strong evidence that the rheumatic attack is a specific response at a susceptible age in individuals with an inborn or acquired sensitivity to a common agent. As with other sensitization phenomena, the rheumatic attack follows the throat infection after an interval up to two or three weeks and its articular and cutaneous manifestations, like those of serum sickness, are transitory. On the one hand the existence of rheumatic families, with the disease appearing in successive generations under different environments and, on the other hand, the escape of most children living under unfavorable conditions, suggest that at the two ends of the scale there are two types that are more or less susceptible to infection or more or less liable to develop a sensitized state in the presence of infection.

Social factors are important. Rheumatic fever and heart disease are more common in working class populations than among the well-to-do. Of the factors operating within the framework of poverty, damp houses have often been suspect, but crowding, with its increased liability to droplet infection, seems to be more definitely incriminated. If, as is now generally accepted, droplet infection with streptococcus is an important factor, outbreaks might be expected among young adults well cared for but subject to overcrowding. In fact, outbreaks have occurred in training ships and barracks where other influences were not unfavorable except damp and chill. But if these are potent factors why was rheumatic fever so rare in young soldiers during the trench warfare of 1914-1918? Social studies of individual cases in children will frequently reveal adverse conditions of life before the attack of rheumatic fever. The domestic outbreak of streptococcic infection is worthy of a much closer study.

The Airplane in the Investigation of Trypanosomiasis

Four consignments of experimental guinea pigs have been flown from this country to Freetown, Sierra Leone, by a British overseas air liner for use in the campaign against sleeping sickness in Nigeria, Uganda, Kenya and other African territories. The guinea pigs will be inoculated in Africa with the virus of sleeping sickness and flown back to England with the tsetse fly parasites which carry the disease. They will be sent to the Liverpool School of Tropical Medicine, where experiments with new drugs are being carried out in the hope of controlling the disease in man and in animals. Both the native populations and their cattle are suffering from the ravages of the tsetse fly, which are producing a serious economic problem in the territories affected.

The Polish Medical Association in the British Empire

During the war the number of Poles who took refuge in the British Empire or who fought as allies was considerable. A Polish University was even constituted in the University of Edinburgh. A Polish Medical Association in the British Empire was formed and recently held a general meeting at the House of the British Medical Association, which was attended by representatives from England, Scotland, the British occupied zone of Germany and France. The association has grown greatly during the past year; there are now ten branches comprising about 600 members. The association has two aims: professional help to members by investigating the possibility of settlement and registration in various countries and material help to colleagues in Poland. While the former aim has not been achieved at present, much has been done in supplying books and periodicals to Poland, which are mainly gifts from private owners. The association has supplied twenty-two medical periodicals for the General Medical Library in Warsaw and the faculties of medicine of Polish universities. Contact has been arranged between Polish universities and the Central Medical Bureau organized by the Royal Society of

Medicine. Many periodicals have also been received from the Rockefeller Foundation in America. The need for such help is great, for not only were Polish medical libraries destroyed in the operations of war but those which escaped largely became a prey to German vandalism.

ITALY

(From Our Regular Correspondent)

FLORENCE, July 6, 1946.

Skin Insufficiencies

Dr. Ludovico Tommasi, chief of the dermatosyphilopathic clinic of the University of Naples, recently discussed the role of dysfunction and insufficiency of the skin in the development of skin diseases. Desquamative erythrodermia, which is a disease of long course with persistent redness of the skin and acute desquamation of the skin, may originate in certain dermatoses of intractable tendencies (such as eczema, psoriasis or acute lichen) or else in dermatitis of an infectious, toxic or allergic nature. Infectious and toxic substances, he said, may cause violent reactions through which the functional reactivity of the skin is more or less arrested. The acuteness of the disease depends on both the intrinsic factor (toxicodermia) and either natural or acquired organic or cutaneous allergy. These factors, which are the causes of the development of dermal diseases of varied morphology, may also produce a sudden lowering of the resistances of the skin with consequent functional decompensation. Tommasi reported some time ago favorable results of vitamin B_6 (adermine) on erythrodermia in adults. He believes that vitamin B_6 restores the functions of the skin through neurocirculatory action.

Antibiotics

The Società Italiana di Biologia Sperimentale recently met in Salerno. Drs. Del Vecchio and Argenziano reported results of observations on the antibiotic effects of a group of quinones on a strain of Staphylococcus pyogenes aureus. Toluquinone, benzohydroquinone and naphthohydroquinone have no antibiotic power. The antibiotic effect of alpha-naphthoquinone and the standard vitamin K (2-methyl-1,4 naphthoquinone) is great. Alpha-naphthoquinone proved to have rapid effects on Streptococcus pyogenes, proteus X 19, dysenteric and paradysenteric bacteria, Brucella and typhoid bacteria. Researches on the antibiotic effects of vitamin K are still in progress. Up to now it has shown antibiotic effects against nineteen strains of Brucella.

Death of Mario Donati

Dr. Mario Donati of the Faculty of Medicine of the University of Milan died recently, the victim of a traffic accident. He was born in Modena. He graduated from the Faculty of Medicine of the University of Turin. He wrote more than two hundred articles on pathology and surgery. His articles on surgery of the abdomen, the sympathetic nervous system and the parathyroids, and his reports on researches on toxic origin of surgical shock and on surgical therapy of diabetes by enervation of the adrenals are well known. He also made several instruments for abdominal surgery.

Work for Soldiers in Hospitals

A medicomilitary committee appointed by the National Board of Directors of Public Health recently met to discuss the advisability of occupational work to improve the condition of soldiers in hospitals. Colonel Dr. Lo Bianco said that occupational work has limited indications only to two groups of soldiers, namely those with stabilized tuberculosis and those who are mutilated. For these soldiers ergotherapy has an actual psychologic value. Shops, industrial centers, schools of fine arts and small farms for occupational therapy have functioned in the past in Italy, especially in connection with certain hospitals. When the patients obtained clinical recovery they began to work. When complete recovery was attained and the patients were discharged from the hospital, they were also discharged from the working center. They found difficulties in work in their social life, either because employers refused to employ them because of their disease or because the work was beyond their strength. This fact may apply to soldiers. Ergotherapy for soldiers should be administered first in proper hospitals, then in proper industrial centers or agricultural colonies with obligation of employing ex-soldiers who are discharged from hospitals or orthopedic centers. Such men should be given work proper for their physical status as well as liberal salaries. These colonies and centers should be provided with clinical and medicosocial departments of the best type and with laboratories competently staffed for the study of the working capacity of employees. When the patients (workers) are entirely and permanently cured they can apply voluntarily for positions in large industrial and agricultural centers, which should be created for the purpose of increasing the well being of soldiers before they return to the normal conditions of work in civilian life.

ANKARA

(From Our Regular Correspondent)

May 30, 1946.

First Case of Histoplasmosis in Turkey

At a recent monthly meeting of the Imperial Medical Society, Professor Dr. Tevfik Saglam, president of Istanbul University, presented at the Ankara Medical School the first case of histoplasmosis observed in Turkey. A man aged 38 was first examined July 25, 1945 because of intermittent fever and prostration. He had been ill for three years. The liver and spleen were slightly enlarged. The lymph glands in the supraclavicular fossae and axillas were moderately enlarged. Examination of the chest was negative. Urinalysis showed only a slight amount of urobilinogen and urobilin; in the blood examination a leukopenia (2,750) was conspicuous. There was nothing important in the myelogram. All agglutination tests were negative. Biopsy of an enlarged lymph node showed an inflammatory infiltration rich in eosinophils, with numerous Sternberg cells. Because of these findings a diagnosis of lymphogranulomatosis was established. The patient left the clinic after twenty-three days. He reentered the hospital two months later with the same complaints. The lymph glands were of the same size and consistency. There was a very severe leukopenia (900) and the anemia had progressed. Aspiratory punctures were performed on the liver and spleen, and Histoplasma capsulatum organisms were found in the smears from the spleen. Cultures and animal inoculations failed. The patient was treated with pentnucleotide and penicillin. He died November 2. Although complete necropsy was not performed, the diagnosis was confirmed by the demonstration of Histoplasma capsulatum in spleen and liver sections.

Oldest Medical Society

The oldest medical society in Turkey, the Imperial Medical Society, was founded in 1856 in Istanbul. It published a periodical in Turkish and French. Because part of the instruction at the Istanbul Medical School was then in French, the society also had foreign members. The majority of the members were Turkish professors and physicians. After 1860, when all instruction at the medical school was given in Turkish, the number of medical students increased, as did the members of the medical society, at the headquarters of which fortnightly meetings were held. The periodical published important observations and reports of clinical cases. In 1923, when Turkey became a republic, the name of the society was changed to the Turkish Medical Society and its publication to the *Bulletin of the Turkish Medical Society*. At present the society has more than three hundred members, including professors, associate and assistant professors, specialists and general practitioners.

BRAZIL

(From Our Regular Correspondent)

RIO DE JANEIRO, June 4, 1946.

The Blood Picture of Radiologists

A paper recently published by Capt. João M. Mendonça, hematologist of the army medical corps, covers the results of his personal study of the blood picture of twenty-one radiologists of this city. The study disclosed 16 cases of anemia, normal conditions being found in five radiologists. Out of these 16 cases of anemia, 11 cases were of the hypocytemic, normochromic and normocytic type, 4 cases were of the hypocytemic, normochromic and macrocytic type and 1 case was of the hypocytemic, hyperchromic and macrocytic type. The anemia was always of slight intensity, with only 1 case of the pernicious form, and no case of the hypochromic, microcytic type. It was not possible to confirm the x-ray erythrocytosis described by Lavedan, Portis, Pfahler and Mottram, the cases studied being closer to the types characterized by Béclère and Moldawsky. It was not possible either to establish any definite association between the intensity of the anemia and the total time of work (varying from one to twenty-five years), as well as with the special kind of work (fluoroscopy, radiography or roentgen therapy), the type of equipment and the type of protection. Of the 21 persons, only 7 are subjected to periodic blood examination, and 8 do not take regular vacation periods away from the x-ray work. In only 3 cases of anemia was the number of reticulocytes abnormally high, the rest, with or without anemia, showing a normal reticulocyte count. This is contrary to the opinions of Moldawsky and of Gerard, who emphasized that reticulocytosis is a characteristic of radiologists' blood. In reference to the white cells the findings were normoleukocytemia with normoneutrocytemia and moderate nuclear deviation (Schilling index 1/6), slight relative eosinocytemia and slight relative lymphopenia, and normomonocytemia. Dr. Mendonça points out, as one important conclusion of his study, the absence of the leukemia producing effect of roentgen radiation in spite of the presence of some important contributory factors, as, for instance, long and active work with x-rays which was recorded in some of the cases. The author believes that this may be explained by a lesser sensitivity of the hemopoietic organs of these persons, similar to the well known fact of the low incidence of agranulocytosis caused by the sulfonamides and other drugs in Brazil.

Preoperative Intraperitoneal Blood for Intra-Abdominal Operations

Dr. Libanio E. Cardoso, surgeon of the Anita Ribas Hospital of Castro, state of Paraná, has published a report of his original contribution on the problem of enlarging the visibility of the surgical field in intra-abdominal operations. It is well known that the distention of the intestine by gases and feces seriously impedes intra-abdominal operations by narrowing the surgical field and by embarrassing operative maneuvers. Emptying of the intestine as completely as possible simplifies the operative technic and diminishes the risk of shock, by requiring less handling of the viscera. To do this the author proposes the intraperitoneal injection of 20 cc. of the patient's blood twelve hours before the operation. While operating in a case of ruptured tubal pregnancy Cardoso noted that the intestines were retracted, empty and inert, which permitted him to see clearly in the lower pelvis, where blood was accumulated. This fact led him to try the preoperative intraperitoneal injection of various fluids in routine cases of appendectomy and salpingectomy. The best results were obtained with the use of blood. The author reports a total of 67 intra-abdominal operations performed with the use of intraperitoneal injection of the patient's blood, in all of which good visibility of the surgical field and a great reduction of the mobility of the intestine were obtained.

Incidence of Echinococcus Granulosus

In a technical bulletin of the Department of Agriculture Drs. Cesar Pinto and J. L. Almeida have published a report on the incidence of Echinococcus granulosus. The hydatidosis is much more prevalent in the southern part of Brazil, particularly in the state of Rio Grande do Sul, and mainly in the counties neighboring Uruguay and Argentina. The first autochthonous human cases of the disease have been registered in the state of Rio Grande do Sul commencing with the year 1903; up to 1937, 327 cases were known. From 1938 to 1941 there occurred 77 more cases, making a total of 404. In the total series the age of the human patients ranged from 4 to 62 years, with a relative frequency of localization of liver 60.5 per cent, lungs 9.1 per cent, peritoneum 6.6 per cent, kidneys 6.1 per cent, muscles 2.4 per cent, ovaries 1.5 per cent, spleen 0.9 per cent, pancreas 0.6 per cent, bones 0.3 per cent and uterus 0.3 per cent. Of the 404 cases 37 were definitely known to be imported, 15 from Portugal, 9 from Italy, 6 from Spain, 2 from Argentina and 1 each from Uruguay, Russia, Turkey, Syria and unspecified countries of Europe.

Duration of Life in Rio de Janeiro and São Paulo

There are no data at present to make possible computation of the average duration of life for the entire population of Brazil, but the Brazilian census bureau recently released interesting information about the span of life in Rio de Janeiro and São Paulo, the largest two cities of the country, aggregating a population of almost 4 million. The study, based on data taken from the 1940 national census, places these two cities in an intermediary position between the most advanced and the most backward populations of the world. The first important fact shown in the study is the vastly lower average for Rio de Janeiro (average duration of life 42.41 years), which is certainly due, at least in part, to the cooler climate and higher percentage of white population of the city of São Paulo (average duration of life 49.17 years).

Personal

Sir Howard Florey of the University of Oxford, England, is now in Rio de Janeiro, where he has given several lectures on penicillin and the antibiotics in general. These lectures have been given at the University of Rio de Janeiro, the National Academy of Medicine, the Brazilian College of Surgeons and the Brazilian Academy of Sciences.

Dr. Geraldo de Paula Souza, dean of the School of Hygiene and Public Health of the University of São Paulo, has been appointed head of the Brazilian delegation to the International Health Organization of the United Nations Organization.

Marriages

WILLIAM ELLERY SEDGWICK JAMES, New York, to Miss Sarah Lispenard Stewart Symington of Short Hills, N. J., in Cooperstown, N. Y., June 22.

LEWIS E. MANGUS, Vesuvius, Va., to Miss Eleanor Margaret McDonough of West Union, Iowa, in Harrisonburg, May 7.

WILLIAM H. KLEINSCHMIDT, Camp Atterbury, Ind., to Miss La Dorice Sward of Rock Island, Ill., February 24.

WILLIAM A. KLAUBER JR., St. George, S. C., to Miss Betty Jane Onley of Parris Island in Beaufort, June 9.

ARTHUR AUGUSTUS JAMES JR., Sanford, N. C., to Mrs. Elvira Laine Leslie of New York, May 30.

DANIEL J. PERRY, Cincinnati, to Miss Doris Rowbotham of Leola, Pa., in Cleveland in April.

CARTER REDD ROWE, Boston, to Miss Mary Skinner Moore of Edenton, N. C., April 27.

ROBERT J. MILOS, Chicago, to Miss Margaret Kline of Aurora, Ill., June 1.

Correspondence

SYPHILIS MASKED BY SCABIES

To the Editor:—There is at the present time a sharp increase in the incidence of both scabies and syphilis. It might be well to bear in mind, therefore, that scabies and syphilis may occur together and that, because of its inflammatory nature and unpleasant subjective symptoms, the lesions of scabies may obscure the syphilis. Three such cases in young men were observed recently within a short time. In each instance the scabetic lesions had dominated the clinical picture. In 2 of these men both the scabies and the syphilis appeared shortly after discharge from the army.

The first patient presented a huge swelling of the penis, which he attributed to the application of sulfur ointment for scabies, relics of which were still present on other scabetic areas. In addition to the swelling there were a few scabetic-looking lesions on the penis, but there was nothing that would ordinarily suggest a chancre. However, the inguinal lymph nodes on both sides and the epitrochlears were enlarged. The pharynx was red and sore. The Kahn quantitative determination of the blood showed 320 units. After the first treatment with arsenoxide there appeared a faint generalized roseolar eruption of secondary syphilis.

In the second patient, who had also been treated for scabies, pigmented remains could still be observed and there were discrete scaly eczematous patches on the penis but no papules or swelling. The blood test was positive and, when the patient was observed five days later, there was a faint generalized eruption of secondary stage syphilis.

The third patient presented active lesions of scabies on the penis, the webs of the fingers, the wrists and the belt area. These had been present for three months despite treatment with scabicidal preparations. Along with the scabetic lesions there were papules on the trunk which were typical for syphilis—bilateral, symmetrical, discretely arranged and shotty. A Kahn quantitative determination of the blood revealed 320 units.

Caution would suggest that a patient with scabies, particularly if there are lesions on the genitalia, should be under observation for a long enough period to make certain that he did not also contract syphilis.

HERBERT RATTNER, M.D., Chicago.

USE OF FOWLER'S POSITION IN SURGERY

To the Editor:—The editorial on the "Use of Fowler's Position in Surgery" in the July 6 issue should be particularly helpful to anesthesiologists. It has been a constant struggle to prevent nurses, interns and other members of the surgical staffs from elevating patients' heads too soon after anesthesia.

I should like to add to the reasons put forth against the routine use of this position. Most types of general anesthetic drugs depress the normal activity of the autonomic nervous system which provides proper control of the circulatory system so necessary in the upright or semiupright position. This depression may continue for a few hours after the patient has returned to bed. Even after full return of consciousness many patients will have a drop in blood pressure from elevation of the head. This I have witnessed many times, and placing the patient in the horizontal position resulted in return of blood pressure to its former level. However, the order was written for Fowler's position as soon as the patient "reacted," and regardless of the patients' complaints of feeling faint and nauseated no one would lower the head. Therefore I concur that in many instances the patient's choice should be respected. There is no proper substitute for seeing the patient and determining the needs.

A true Fowler's position does help patients that have respiratory difficulty by improving breathing. However, they generally soon "slump" down in bed, which defeats much of this advantage. It has the disadvantage of causing secretions in the respiratory tract to gravitate down particularly if the ciliary action and cough are depressed with drugs. Certainly the practice of making patients sleep in this position unless it is their desire is not justifiable. The position should be used as part of the "change of position" regimen, but unless positively contraindicated a patient should spend part of the time in the horizontal position until allowed out of bed, with emphasis on the horizontal with frequent turning until the raising of the head does not disturb the circulation. This time will vary with patients, the type and duration of anesthesia, and also the drugs used to control postoperative pain.

IVAN B. TAYLOR, M.D., Detroit.
Professor of Anesthesiology,
Wayne University College of Medicine.

Bureau of Investigation

MISBRANDED PRODUCTS

Abstracts of Notices of Judgment Issued by the Food and Drug Administration of the Federal Security Agency

[EDITORIAL NOTE.—These Notices of Judgment are issued under the Food, Drug and Cosmetic Act, and in cases in which they refer to drugs and devices they are designated D.D.N.J. and foods, F.N.J. The abstracts that follow are given in the briefest possible form: (1) the name of the product; (2) the name of the manufacturer, shipper or consigner; (3) the date of shipment; (4) the composition; (5) the reason for the charge of misbranding, and (6) the date of issuance of the Notice of Judgment.]

Domino Aspirin Tablets.—Halitosine Company, St. Louis. Shipped Jan. 29, 1941. Misbranded because label falsely stated that package contained 100 tablets, whereas specimens contained less than that amount.—[*D. D. N. J., F. D. C. 936; October 1944.*]

Iron Compound and Yeast Tablets.—Keith Victor Pharmacal Company, St. Louis. Shipped Feb. 14, 1942. Adulterated and misbranded because label claim, "Each tablet contains B_1 (Thiamin Chloride) 50 International Units B_2 (Riboflavin) 25 Gamma," was false as applied to this article containing not more than 25 International Units of vitamin B_1 per tablet and not more than 15 gamma of riboflavin.—[*D. D. N. J., F. D. C. 967; November 1944.*] Further adulterated and misbranded under the provisions of the law applicable to foods, as reported in *F. N. J. 5777.*

Rel-Ka-Sol.—Rel-Ka-Sol Chemical Company, Philadelphia. Shipped May 27, 1942. Composition: essentially water, alcohol and boric acid, with small amounts of phenol and chlorthymol. Misbranded because label falsely represented that the product (which was not an antiseptic in the dilution recommended) would prevent or remedy sore throat, abscesses and boils, tonsillitis, infected gums, abscessed teeth, styes, ear discharges and all scalp infections and kill germs.—[*D. D. N. J., F. D. C. 943; October 1944.*]

St. Joseph C-2223.—Plough Sales Corporation, Memphis, Tenn. Labeled in part: "St. Joseph Laboratories Division of Plough, Inc., New York, N. Y. Memphis, Tenn." Shipped Nov. 18, 1942. Composition: essentially water, alcohol (22.3 per cent), sodium salicylate (about 81 grains per fluid ounce), potassium iodide (about 15.4 grains per fluid ounce), and glycerin, saccharin, anise and extracts of plant drugs. Misbranded because label claim, "through its sedative action aids in lessening the discomfort and pain of Acute Rheumatic Fever and through its antipyretic effect, reduces fever," was false and misleading, since the product was not a sedative.—[*D. D. N. J., F. D. C. 984; November 1944.*]

Vitasol The 6-V Health Builder.—Vitasol Corporation, Brooklyn. Shipped April 28, 1942. Composition: declared on label to comprise vitamins A, B_1, C, D, E and G, sugar, cocoa, dried milk solids, malted milk, barley malt, dextrose, yeast, soy bean and vanillin. Misbranded because label falsely represented that product was capable of building health, was vital to eyesight, would stimulate the appetite, aid digestion, insure good bone and tooth formation, increase the red corpuscles, restore energy and accomplish some other things.—[*D. D. N. J., F. D. C. 947; October 1944.*] Further misbranded under the provisions of the law applicable to foods, as reported in *F. N. J. 5790.* In a later case, also, Vitasol was declared misbranded as well as adulterated because of label misrepresentations.—[*D. D. N. J., F. D. C. 1208; June 1945.*]

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Charitable Hospitals: Right of Nonprofessional Employees to Strike and Picket.—The plaintiff hospitals filed suit for a declaratory judgment to the effect that their employees had no right to strike, leave their employment or engage in other public demonstrations as a means of compelling plaintiffs to bargain collectively. The case was heard in the Supreme Court, special term, Kings County, New York.

Demands were made on the plaintiff Beth-El Hospital that the hospital recognize the Hospital Employees Union of New York as the employees' representative and bargain collectively with it in that capacity. When these demands were refused, a strike was threatened, work stoppages and demonstrations occurred on several occasions and the functioning of the hospital was impaired to such an extent that admissions were limited to emergency cases. A similar course of action was maintained by the union against the plaintiff Beth Moses Hospital, with like results.

The problem presented here is similar to that presented in the recent case of *Society of New York Hospital* v. *Hanson* (59 N. Y. S. (2d) 91; J. A. M. A. **131**:252 [May 18] 1946), the chief differences being that this is an action for a declaratory judgment, not a direct suit for an injunction, and the conduct of the union in this case is, thus far, of a somewhat less drastic character than appears to have occurred in the New York Hospital case. In the New York Hospital case the requested injunction was granted.

The defendant, president of the union, contends that the union is legally entitled to strike and picket if its demand for collective bargaining is not met. Article 20 of the labor law of the state of New York does not, said the court, specifically forbid strikes by employees of charitable institutions. It does, however, exempt such institutions from the obligation of bargaining collectively with their employees. In this case one of the avowed purposes of the strike is to force the plaintiffs to bargain collectively. Thus there is a threat to strike for a purpose which defeats the expressed policy of the state. A strike having such an unlawful purpose may be and will be restrained. Some fields of endeavor, the court continued, so directly involve the public safety that the individuals engaged therein are not possessed of the right to strike as a means of increasing their wages or improving their working conditions. The policeman, the fireman, the soldier, does not possess that right. The physicians in the wards or operating rooms of the plaintiff hospitals do not possess it, and those in more humble positions in the laboratory and diet kitchen, the engine room or the power plant, once they have assumed the performance of duties just as essential to the care and healing of the sick as those of the physician himself, must understand that they have, in assuming that obligation, surrendered rights possessed by those seeking employment in enterprises operated for profit, not so directly involving the public interest. In a recent Pennsylvania case involving a similar question, the court, in discussing the effect of a strike against a hospital, said:

> "It is not merely a matter of suspending operations, ceasing work and stopping production, such as might be true in a steel mill or automobile factory. It is a question of protecting the health, safety and, in many cases, the very lives of those persons who need the service a hospital is organized to render. . . .
>
> "Hospitals are scientific institutions created for a humane purpose in amelioration of the sufferings of mankind. . . . The whole must be coordinated, controlled and uninterrupted to accomplish the general purpose. This would be impossible, should we hold the Labor Act applicable with all its attending ramifications, interruptions and possible cessation of service due to labor disputes. . . ." (*Western Pennsylvania Hospital* v. *Lichliter*, 17 A. (2d) 206; J. A. M. A. **117**:475 [Aug. 9] 1941.)

Accordingly an order was authorized granting the relief requested.—*Beth-El Hospital v. Robbins, 60 N. Y. S. (2d) 798 (N. Y., 1946).*

Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

NATIONAL BOARD OF MEDICAL EXAMINERS EXAMINING BOARDS IN SPECIALTIES

Examinations of the National Board of Medical Examiners and the Examining Board in Specialties were published in THE JOURNAL, Aug. 3, Page 1170.

BOARDS OF MEDICAL EXAMINERS

ALABAMA: Montgomery, Jan. 21-23. Sec., Dr. B. F. Austin, 519 Dexter Ave., Montgomery 4.

ARIZONA: * Phoenix, 1st week in October. Sec., Dr. J. H. Patterson, 826 Security Bldg., Phoenix.

ARKANSAS: * Little Rock, Nov. 7-8. Sec., Medical Board of the Arkansas Medical Society, Dr. L. J. Kosminsky, Texarkana. *Eclectic.* Little Rock, Nov. 7. Sec., Dr. C. H. Young, 1415 Main St., Little Rock.

CALIFORNIA: Los Angeles, Aug. 5-8. Sec., Dr. F. N. Scatena, 1020 N. St., Sacramento 14.

DISTRICT OF COLUMBIA: *Reciprocity.* Washington, Sept. 9. Sec., Commission on Licensure, Dr. G. C. Ruhland, 6150 E. Municipal Bldg., Washington.

FLORIDA: * *Examination.* Jacksonville, Nov. 26-27. Sec., Dr. Harold D. Van Schaick, 2736 S.W. 7th Ave., Miami 36.

GEORGIA: Atlanta, Oct. 8-10. Sec., State Examining Boards, Mr. R. C. Coleman, 111 State Capitol, Atlanta 3.

ILLINOIS: Chicago, Oct. 15-17. Sec., Dept. of Registration & Education, Mr. Philip Harman, Springfield.

INDIANA: *Examination.* Indianapolis, June 1947. Exec. Sec., Board of Medical Registration & Examination, Miss Ruth V. Kirk, 627 K. of P. Bldg., Indianapolis 4.

KANSAS: Kansas City, Dec. 4-5. Sec., Board of Medical Registration & Examination, Dr. J. F. Hassig, 905 N. Seventh St., Kansas City 10.

KENTUCKY: *Examination.* Louisville, Dec. 16-18. Sec., State Board of Health, Dr. P. E. Blackerby, 620 S. Third St., Louisville 2.

MARYLAND: *Examination.* Baltimore, Dec. 10-13. Sec., Dr. J. T. O'Mara, 1215 Cathedral St., Baltimore 1. *Homeopathic.* Baltimore, Dec. 10-11. Sec., Dr. J. A. Evans, 612 W. 40th St., Baltimore.

MICHIGAN: * *Examination.* Lansing, Oct. 9-11. Sec., Board of Registration in Medicine, Dr. J. E. McIntyre, 100 W. Allegan St., Lansing 8.

MINNESOTA: * Minneapolis, Oct. 15-17. Sec., Dr. J. F. Du Bois, 230 Lowry Medical Arts Bldg., St. Paul 2.

MISSISSIPPI: *Reciprocity.* Jackson, Dec. Asst. Sec., State Board of Health, Dr. R. N. Whitfield, Jackson 113.

MONTANA: Helena, Sept. 30-Oct. 2. Sec., Dr. O. G. Klein, First Nat'l Bank Bldg., Helena.

NEVADA: *Reciprocity.* Carson City, Aug. 5. Sec., Dr. G. H. Ross, 215 N. Carson St., Carson City.

NEW HAMPSHIRE: Concord, Sept. 12-13. Sec., Board of Registration in Medicine, Dr. John S. Wheeler, 107 State House, Concord.

NEW JERSEY: *Examination.* Trenton, Oct. 15-16. Sec., Dr. E. S. Hallinger, 28 W. State St., Trenton.

NEW MEXICO: * Santa Fe, Oct. 7-8. Sec., Dr. LeGrand Ward, 141 Palace Ave., Santa Fe.

NEW YORK: *Examination.* Albany, Buffalo, New York & Syracuse, Oct. 7-10. Sec., Dr. Jacob L. Lochner, Education Bldg., Albany.

OHIO: *Examination.* Columbus, Dec. 3-5. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus.

PENNSYLVANIA: *Examination.* Harrisburg, Oct. Act. Sec., Bureau of Professional Licensing, Dept. of Public Instruction, Mrs. M. G. Steiner, 351 Education Bldg., Harrisburg.

RHODE ISLAND: *Examination.* Providence, Oct. 3-4. Sec., Division of Examiners, Mr. Thomas B. Casey, 366 State Office Bldg., Providence.

SOUTH CAROLINA: Columbia, Nov. 11-12. Sec., Dr. N. B. Heyward, 1329 Blanding St., Columbia.

VIRGINIA: * Richmond, Dec. 3-6. Sec., Dr. J. W. Preston, 30½ Franklin Rd., Roanoke.

WYOMING: *Examination.* Cheyenne, Oct. 7-8. Sec., Dr. G. M. Anderson, Capitol Bldg., Cheyenne.

* Basic Science Certificate required.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

ARIZONA: *Examination.* Tucson, Sept. 10. Sec., Dr. R. L. Nugent, Science Hall, University of Arizona, Tucson.

COLORADO: *Examination.* Denver, Sept. 11-12. Sec., Dr. Esther B. Starks, 1459 Ogden St., Denver.

CONNECTICUT: *Examination.* New Haven, Oct. 12. Exec. Asst., State Board of Healing Arts, Mr. W. G. Reynolds, 250 Church St., New Haven.

DISTRICT OF COLUMBIA: *Examination.* Washington, Oct. 21-22. Sec., Commission on Licensure, Dr. G. C. Ruhland, 6150 E. Municipal Bldg., Washington.

MICHIGAN: *Examination.* Ann Arbor, Oct. 11-12. Sec., Miss Elsie LeBeau, 101 N. Walnut St., Lansing.

MINNESOTA: *Examination.* Minneapolis, Oct. 1-2. Sec., Dr. Raymond N. Bieter, 105 Millard Hall, Univ. of Minnesota, Minneapolis 14.

NEBRASKA: *Examination.* Omaha, Oct. 1-2. Dir., Mr. Oscar F. Humble, 1009 State Capitol Bldg., Lincoln 9.

OREGON: *Examination.* Portland, Nov. 2. Sec., Mr. C. D. Byrne, Univ. of Oregon, Eugene.

RHODE ISLAND: *Examination.* Providence, Aug. 14. Sec., Division of Examiners, Mr. Thomas B. Casey, 366 State Office Bldg., Providence.

SOUTH DAKOTA: Sioux Falls, Dec. 6-7. Sec., Dr. G. M. Evans, Yankton.

WISCONSIN: *Examination.* Madison, Sept. 21. Sec., Prof. R. N. Baser, 152 W. Wisconsin Ave., Milwaukee 3.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1936 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied with stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

Am. J. Syphilis, Gonorrhea and Ven. Dis., St. Louis

30:205-304 (May) 1946

Penicillin Sensitivity and Morphology of Reiter Strain of Treponema Pallidum After Cultivation in Media Containing Penicillin. T. Tung and C. N. Frazier.—p. 205.

Penicillin Treatment of Benign Late Gummatous Syphilis: Report of 21 Cases. D. D. Dexter and H. A. Tucker.—p. 211.

Acute Syphilitic Meningitis Treated with Penicillin: Progress Report. R. A. Nelson and J. E. Moore.—p. 227.

Syphilitic Arachnoiditis Treated with Penicillin. J. L. Callaway, R. O. Noojin, Beatrice H. Kuhn, Kathleen A. Riley and J. A. Segerson.—p. 231.

Intrathecal Administration of Penicillin in General Paresis. G. D. Weickhardt.—p. 235.

Toxicologic and Therapeutic Action of Penicillin on Mice Infected with Agent of Lymphogranuloma Venereum. G. Rake and Helen Jones.—p. 242.

*Penicillin Treatment of Previously Untreated Acute Gonorrhea. J. R. Scholtz and R. Dyar.—p. 247.

Incidence of Positive Serologic Reactions in Multiple Blood Donors. Mary Heiss Boynton.—p. 252.

*False Positive Serologic Tests for Syphilis Following Blood Donation. R. D. Barnard, C. R. Rein and C. A. Doan.—p. 255.

Lumbar Puncture Headache: Statistical Analysis of Five Hundred Punctures. L. J. Underwood.—p. 264.

*Study of Liver Function Following Massive Arsenotherapy for Syphilis. L. J. Thomas and S. Olansky.—p. 272.

Clinical and Laboratory Differentiation Between Chancroid and Lymphogranuloma Venereum. A. Heyman.—p. 279.

Follow-Up Service for Private Physician Cases of Venereal Disease in Hawaii. S. D. Allison and Harriet Kuwamoto.—p. 287.

Penicillin Treatment of Untreated Acute Gonorrhea.—Scholtz and Dyar report observations on 387 soldiers with previously untreated acute gonorrhea. Diagnosis was made on the basis of positive cultures of the urethral discharge. The men were treated with 80,000 or 100,000 units of penicillin, using six different treatment schedules. The proportion successfully treated, as determined by twenty-one days of observation after treatment, did not differ significantly among five groups in which the patients received from two to five equally divided doses. This proportion varied from 98 per cent in those receiving 20,000 units every two hours for five doses to 87 per cent in those receiving two doses of 50,000 units at a three hour interval. Of those who received a single injection of 100,000 units, only 71 per cent were successfully treated. Three fourths of the men successfully treated were entirely free from a urethral discharge ninety-six hours after treatment, but 4 per cent still had some discharge twenty-one days after treatment. Urinary abnormalities such as haziness, cloudiness or the presence of shreds did not disappear as rapidly, still being present in two thirds of the successfully treated patients on the seventh day after treatment and in nearly one third on the twenty-first day after treatment.

False Positive Tests for Syphilis Following Blood Donation.—Barnard and his associates observed a person with a positive serologic reaction for syphilis who at the time of the first donation, a month before, had been negative for syphilis. During the next five months 6 similar cases were noted. By law the center agencies were required to make some disposition of seropositive persons either by insuring that the individual had reported to a private physician or by reporting the person to the state authorities. Frequent protests were received from persons who were found to have positive serologic findings by outside agencies (army, navy, state health laboratories, induction boards) on the occasion of induction, enlistment and attempts to secure a marriage license. During August 1943 blood was donated by 300 healthy, seronegative reformatory inmates. Postdonation spot serologic samples were secured on this group at daily intervals from the tenth to the seventeenth day, at the end of one month and at the end of two months. These serums were subjected to six serodiagnostic tests for syphilis. Almost 10 per cent of these donors developed some degree of seropositivity, which reverted to negative in eight weeks.

Liver Function Following Massive Arsenotherapy for Syphilis.—Thomas and Olansky studied 49 patients receiving massive arsenotherapy for syphilis, consisting of 1,200 mg. of arsenic given in equal doses over a five day period before and after therapy with the following liver function tests: plasma proteins, cephalin flocculation test, and intravenous hippuric acid and sulfobromophthalein. None of the 49 patients showed evidence of abnormal hepatic function as measured by the plasma protein level and sulfobromophthalein excretion. With the cephalin flocculation test 34 had positive results prior to therapy, whereas, following arsenotherapy, 94 per cent of all the patients had either improved in this respect or remained the same. With the hippuric acid test 37 per cent of the patients had abnormal liver function as measured by this test prior to therapy. Of this group 89 per cent exhibited the same or improved hippuric acid excretion following arsenotherapy. It is concluded that large doses of arsenoxide given within a five day period do not usually produce detectable liver damage. These results also suggest that there is an active hepatitis during the primary and secondary stages of syphilis.

American Review of Tuberculosis, New York

53:411-516 (May) 1946

*Immunization with Vole Bacillus: Protective Value of Vole Bacillus (Wells) as Compared with BCG Against Tuberculous Infection. K. Birkhaug.—p. 411.

*Vole Bacillus: Susceptibility of South African Wild Rodents to Vole Strain of Acid Fast Bacillus and to Other Acid Fast Bacilli: Preliminary Report. E. Grasset, J. F. Murray and D. H. S. Davis.—p. 427.

Pulmonary Acariasis: Its Relationship to Eosinophil Lung and Löffler's Syndrome. A van der Sar.—p. 440.

Ambulatory Pneumothorax Induction: Report of One Year's Experience in Chungking. Adele Cohn Wright.—p. 447.

Photoroentgenographic Results: Comparison of 4 by 5 inch and 70 mm. Equipment in 1,713 Cases. F. Tice.—p. 454.

Cutaneous Reinfection in Pulmonary Tuberculosis. C. Floyd, H. A. Novack and C. G. Page.—p. 468.

Sulfones in Clinical Tuberculosis. F. Tice, H. C. Sweany and R. Davison.—p. 475.

Virulence of Tubercle Bacilli: In Vitro Testing by Use of Diphtheria Antitoxin. P. F. Wagley and W. Steenken Jr.—p. 496.

Periodicals Devoted to Tuberculosis in United States of America. R. G. Paterson.—p. 500.

Protective Value of Vole Bacillus Against Tuberculosis.—Birkhaug reports experiments on the protective value of the vole bacillus as compared with BCG against tuberculous infection. Intracutaneous vaccination of guinea pigs with the vole acid fast bacillus, prior to infection with virulent human tubercle bacilli, gives a high degree of protection which is equal to but not greater than that produced by vaccination with BCG.

Susceptibility of South African Rodents to Vole Strain of Acid Fast Bacillus.—Grasset and his associates found that the Transvaal gerbil (Tatera brantsi) and the Cape gerbil (Tatera afra) are highly susceptible to the vole bacillus. Multimammate mice (Mastomys coucha) show lesions in the minority of inoculated animals, whereas white footed rats (Mystromys albicaudatus) are not susceptible. The susceptibility of Tatera brantsi to virulent human and bovine strains and to the Saranac and BCG avirulent strains of Mycobacterium tuberculosis was also studied. The only positive result in this group of Tatera was an animal inoculated with the Saranac strain. The susceptibility of rabbits and guinea pigs to the vole acid fast bacillus was found to be of a low order. A group of 16 Tatera and 7 Mystromys was inoculated with a suspension of Mycobacterium leprae from a lepra nodule. No evidence of infection has been observed up to three hundred and twenty-seven days. The addition of an extract of Tatera tissues to Dorset's medium improved the growth of the vole acid fast bacillus.

Annals of Surgery, Philadelphia

123:705-964 (May) 1946. **Partial Index**

Repair of Surface Defects of Upper Extremity. D. T. Shaw and R. L. Payne Jr.—p. 705.
Experiences with Early Nerve Surgery in Peripheral Nerve Injuries. R. G. Spurling and B. Woodhall.—p. 731.
*Mediastinal Tumors: Report of Cases Treated at Army Thoracic Surgery Centers in United States. B. Blades.—p. 749.
Angiomatous Malformations of Brain: Successful Extirpation in 3 Cases. C. Pilcher.—p. 766.
*Analysis of Brain Abscesses Observed During Past Thirty Years. E. Sachs.—p. 785.
*Craniotomy and Total Dissection as Method in Treatment of Abscess of Brain. E. F. Fincher.—p. 789.
Streptomycin in Urinary Infections. B. P. Petroff and F. V. Lucas. —p. 808.
New Method for Constructing Artificial Esophagus. W. P. Longmire Jr. and M. M. Ravitch.—p. 819.
Experiences in Subtotal Resection of Pancreas in Hypoglycemia. V. C. David and L. K. Campbell.—p. 836.
Indications for and Value of Choledochoduodenostomy. R. L. Sanders. —p. 847.
Malignant Tumors of Small Bowel. J. M. Emmett and M. L. Dreyfuss. —p. 859.
Restoration of Continuity After Resection of Rectum. H. Mahorner. —p. 866.
Further Observations on Imperforate Anus. R. L. Rhodes.—p. 877.
Gangrenous Suppurative Appendicitis: 48 Consecutive Cases with Removal of Appendix and Complete Closure of Wound, without Death. E. D. Newell.—p. 900.
Investigation of Role of Chemotherapy in Wound Management in Mediterranean Theater. C. Lyons.—p. 902.
Prevention and Treatment of Postoperative Lymphedema of Arm. D. Guthrie and G. Gagnon.—p. 925.
Refrigeration Anesthesia for Amputation. F. M. Massie.—p. 937.

Mediastinal Tumors.—According to Blades, of 114 explorations of the thorax performed at army thoracic surgery centers to establish the nature of mediastinal masses 5 proved to be aneurysms, 94 proved to be benign tumors and 15 proved to be malignant tumors. The benign mediastinal tumors included 23 bronchiogenic cysts, 14 dermoids and teratomas, 29 primary nerve tumors, 10 pericardial cysts, 4 thymomas, 3 lipomas and others. The relatively large number of bronchiogenic cysts was surprising. Eighty-nine benign tumors of the mediastinum were removed successfully and in 3 of the 15 cases of cancer the mass was removed but in the remainder of the malignant tumors extirpation was not possible. Mediastinal tumors are relatively rare lesions, yet the routine roentgenologic examination of the chest has led to the detection of 94 of 109 cases of mediastinal tumors in this series. It is apparent that if this large number of neoplasms of the mediastinum was found in apparently healthy young men the universal application of routine roentgenologic examination of the chest to persons of all ages would result in the early diagnosis of many intrathoracic tumors.

Analysis of Brain Abscesses Observed During Thirty Years.—Sachs says that during the past thirty years 142 cases of brain abscess have been observed at his clinic. In 128 of these the abscess was found at operation. Twelve of the remaining 14 in which the abscess was not located were treated before the discovery of ventriculography. That the mortality at his clinic was higher than at other clinics he ascribes partly to the fact that he operated on every patient with a brain abscess, regardless of the seriousness of the patient's condition. He believes that unencapsulated abscess should not be drained. During the acute stage penicillin is invaluable in bringing about encapsulation. Aspiration, except in cerebellar cases, should be used only as a palliative procedure until more radical treatment can be instituted. Excision without drainage is the ideal procedure, but frequently marsupialization must be resorted to if, in the course of an excision, the abscess has been ruptured.

Craniotomy and Total Dissection in Brain Abscess.—According to Fincher results as seen in the literature on brain abscess that have been removed in toto have been surgically ideal. These wounds have healed by primary intention, and the patients have escaped the prolonged hospital complications and often fatal results that have followed other methods of treatment. In the 5 author's cases radical total dissection has been carried out, aided by sulfonamide and penicillin therapy, and the hospitalization period has been comparable to that of a normal convalescence period of any craniotomy. The morbidity, with one exception, has been nil. The results thus far have been such as to suggest that the basic surgical principle of "incision and drainage" in the treatment of abscesses of the brain might be replaced by total abscess dissection and primary wound closure.

Archives of Dermatology and Syphilology, Chicago

53:437-562 (May) 1946

Dermatitis of Hands Due to Atopic Allergy to Pollen. A. H. Rowe. —p. 437.
*Treatment of Tinea Capitis with Special Iodine and Dilute Acetic Acid: Preliminary Report of Results. A. Strickler.—p. 454.
Treatment of Tinea Capitis with Roentgen Rays. G. M. MacKee, A. Mutscheller and A. C. Cipollaro.—p. 458.
Juxta-Articular Node of Leprous Origin. H. Portugal and G. L. Rocha. —p. 471.
Acute Idiopathic Circumscribed Cutaneous Gangrene: Report of 2 Cases. W. B. Swarts.—p. 477.
Isolation of Dermatophytes: New Procedure for Use in Presence of Saprophytic Fungi, Especially in Mixed Cultures and from Leather. J. M. Leise and L. H. James.—p. 481.
Electrosurgical Removal of Plantar Warts (Loop Treatment). F. L. Karp.—p. 496.
Tyrothricin in Treatment of Diseases of Skin. A. G. Franks and W. L. Dobes and J. Jones.—p. 498.
Nevus Flammeus with Glaucoma. S. Goldberg.—p. 503.

Iodine and Dilute Acetic Acid in Tinea Capitis.—In the treatment used by Strickler the hair was clipped and kept short and dilute acetic acid (3 per cent) was rubbed into the scalp with a toothbrush for two minutes, special attention being paid to the infected areas. This was followed by keeping an electric bulb of 150 to 200 watt strength sufficiently close to the scalp to impart a distinct sensation of heat. The iodine ointment or oil was next rubbed into the scalp with a toothbrush or hand for two minutes, and the electric bulb was used again for six minutes. The iodine ointment consists of iodine crystals, red blood cells, chlorophyll and magnesium dioxide. It is used in the proportion of 2 Gm. of the iodine to 32 Gm. of benzoinated lard. Trial is being made of the iodine mixture of the same strength incorporated in an oil. It is believed that this would prove more efficient, the iodine molecule becoming activated through photodynamic action. Of 60 patients with tinea capitis 27, or 45 per cent, were cured. In view of the almost epidemic proportions of tinea capitis at present, this local treatment appears worthy of trial, particularly since added experience has raised the proportion of cures to almost 70 per cent.

Archives of Otolaryngology, Chicago

43:429-548 (May) 1946

Treatment and Training of the Hard of Hearing: Program of Physical and Psychosocial Therapy. F. L. Lederer and W. G. Hardy.—p. 429.
Washington County (Md.) Program for Prevention of Deafness in Children. D. F. Proctor and W. R. Willard.—p. 462.
*Irradiation for Elimination of Nasopharyngeal Lymphoid Tissue. D. F. Proctor.—p. 473.
Disturbances of Ethmoid Branches of Ophthalmic Nerve, with Description of Syndrome Associated with Chronic Suppuration of Olfactory Fissure. J. J. Littell.—p. 481.
*Aero-Otitis Media in Pressure Chamber "Flights." A. T. Lieberman. —p. 500.
Advances in Understanding of Rhinologic and Otologic Conditions Related to Nervous System: Critical Survey of Recent Literature. W. P. Eagleton.—p. 511.

Irradiation for Nasopharyngeal Lymphoid Tissue.—Proctor treated 323 patients with irradiation of nasopharyngeal lymphoid tissue at the Hagerstown Clinic for the prevention of deafness in children for more than two years. An applicator containing 50 mg. of radium salt within a filter of 0.3 mm. of monel metal has been used, and the dosage that has been found most effective with this application is 1 Gm. for twenty seconds at one sitting. The interval between treatments has been fixed at twenty-five days. Five patients have received six irradiations and 21 patients five. The majority of the patients were considered well after three or four treatments, and many have noted definite improvement after a single treatment. One hundred patients have had complete eradication of nasopharyngeal lymphoid tissue, 144 patients had satisfactory regression of such tissue with clearing of the eustachian orifices, many of the patients still have treatments to undergo and only 10 patients have remained completely unimproved. Nineteen patients with recurrent otitis media have remained well since

treatment. Twenty-six patients with chronic otitis media have now had dry ears over a period of many months. Eight children with bronchial asthma have ceased to suffer from attacks and 2 other children have been greatly improved. Forty-three patients with severe recurrent infection of the upper respiratory tract remained relatively free from this affliction for at least the past winter. Nineteen ears with severe impairment of hearing have returned to normal, and 268 ears have shown definite improvement of hearing.

Aero-Otitis Media.—Lieberman reports observations on the incidence of aero-otitis media in 167 persons participating in 330 "high altitude flights" in a pressure chamber. There were 55 cases (16⅔ per cent) with symptoms plus objective otoscopic findings of aero-otitis media, while the total incidence of objective otoscopic findings in the tympanic membrane and the middle ear was 92 cases (27.9 per cent). The "chamber flights" were of three different types: (1) a three hour run in which persons were "flown" to a simulated altitude of 35,000 feet (10,600 meters) and remained there for three hours; (2) a cold run, i. e. a one hour run at 30,000 feet (9,000 meters), at —40 F.; (3) a simulated free fall in which the person was "dropped" from 30,000 to 18,000 feet (5,500 meters) without oxygen in a period of about fifty seconds. Observations suggest that low temperature does not increase the incidence of aero-otitis media but that rate of descent and altitude attained are important factors. A higher incidence of aero-otitis media was observed in persons with obstruction of the eustachian tubes due to hypertrophied lymphoid tissue than in those with normal looking ostiums. The incidence of aero-otitis media was no greater in persons with subacute infections of the upper respiratory tract than in persons with no signs or symptoms of infection of the upper respiratory tract. The incidence of aero-otitis media was about the same in experienced flying personnel as in persons with no flying experience. Observations on 46 persons showed that in the majority the symptoms of aero-otitis media appeared at about 16,000 feet.

Arkansas Medical Society Journal, Fort Smith

42:239-256 (May) 1946

Development of Prepayment Hospital and Medical Plan. J. W. Thompson.—p. 239.
Michigan State Medical Society's Plan for Providing Medical Care for Beneficiaries of Veterans Administration. H. A. Kemp.—p. 243.
Modern Concepts of Cardiovascular Disease: Clinical Recognition of Coronary Artery Insufficiency. C. T. Chamberlain.—p. 247.
Volvulus of Sigmoid Colon: Discussion and Case Report. G. C. Burton.—p. 251.

43:1-44 (June) 1946

Reconstruction of Bile Duct with Vitallium Tube and Suggestions for Avoiding Need of Such an Object. H. K. Wright.—p. 2.
Modern Concepts of Cardiovascular Disease: Thromboangiitis Obliterans. C. T. Chamberlain.—p. 5.

Bulletin of Johns Hopkins Hospital, Baltimore

78:265-324 (May) 1946

Atabrine Studies in the Field: I. Relation of Serum Atabrine Level to Breakthrough of Previously Contracted Vivax Malaria. A. J. Schaffer and R. A. Lewis.—p. 265.
*Studies on Convalescence: IV. Nitrogen and Mineral Balances During Starvation and Graduated Feeding in Healthy Young Males at Bed Rest. J. E. Howard, R. S. Bigham, H. Eisenberg, Dorothy Wagner and Elizabeth Bailey.—p. 282.
Studies on Pharmacology of DDT (2,2 Bisparachlorophenyl-1,1,1, Trichloroethane): Chronic Toxicity of DDT in the Dog. R. J. Bing, B. McNamara and F. H. Hopkins.—p. 308.

Nitrogen and Mineral Balances During Starvation and Graduated Feeding.—Howard and his associates observed 2 healthy young male volunteers during periods of (*a*) acute starvation and graduated increased feedings and (*b*) graduated reduced feedings to a brief period of starvation. The pattern of metabolism of nitrogen, potassium, phosphorus, sodium and chloride were followed, together with observations on weight, concentrations of chloride, carbon dioxide, sodium, potassium, nonprotein nitrogen, uric acid and protein in the serum, blood morphology and sulfobromophthalein liver function tests. Large deviations from this pattern, if found in acutely traumatized healthy persons, may be assumed to result from the process of injury. Nitrogen losses, both at bed rest and during starvation, were found to be slightly greater than would be expected from a previously reported hypothetical chart. During periods of decreasing dietary the nitrogen, potassium and phosphorus were lost in the same proportions as they have been found to exist in muscle protoplasm. During periods of increasing dietary, potassium was held earlier and in greater proportion than was nitrogen; phosphorus and nitrogen balances, however, continued to reflect their relative proportions in normal muscle. Urinary excretion of alpha aminonitrogen tended to fall when the patients were on submaintenance diets, below one-half the calculated requirements. During periods of starvation there were conspicuous losses of sodium and chloride, and the repletion of these substances was slow even when greater than maintenance diets were given. Sharp reductions in the concentrations of serum bicarbonate and chloride resulted from both types of fasting. Fasting reduced the capacity of the liver to remove sulfobromophthalein from the blood.

Bulletin New York Academy of Medicine, New York

22:281-342 (June) 1946

Factors Common to Surgical Lesions of Biliary Tract. A. O. Whipple.—p. 281.
Surgical Treatment of Acute Cholecystitis. G. J. Heuer and F. Glenn.—p. 283.
Treatment of Chronic Cholecystitis With and Without Stone: Indications and Contraindications for Choledochostomy. F. W. Bancroft.—p. 292.
Repair of Strictures of Common and Hepatic Bile Ducts. R. Colp.—p. 306.
Treatment of Seasonal and Nonseasonal Hyperesthetic Rhinitis with Anthallan. A. D. Ghiselin Jr.—p. 320.

Illinois Medical Journal, Chicago

89:149-204 (April) 1946

Herniation of Intervertebral Disk: Systematized Technic for Investigation and Treatment of Lumbosacral and Low Lumbar Lesions. I. J. Speigel.—p. 188.

Journal of Allergy, St. Louis

17:119-186 (May) 1946

Allergenic Interrelationship of Epidermis, Blood Serum and Skeletal Muscle. F. A. Simon.—p. 119.

SYMPOSIUM ON ANTIHISTAMINIC AND ANTIANAPHYLACTIC DRUGS

B-DIMETHYLAMINOETHYL BENZHYDRYL ETHER HYDROCHLORIDE
EXPERIMENTAL AND CLINICAL DATA

Histamine Antagonists: III. Effect of Oral and Local Use of B-Dimethylaminoethyl Benzhydryl Ether Hydrochloride on Wheaing Due to Histamine Antigen-Antibody Reactions and Other Wheaing Mechanisms: Therapeutic Results in Allergic Manifestations. S. Friedlaender and S. M. Feinberg.—p. 129.
*Clinical Results with Benadryl. G. L. Waldbott.—p. 142.
β-Dimethylaminoethyl Benzhydryl Ether Hydrochloride (Benadryl): Its Use in Allergic Diseases. S. J. Levin.—p. 145.
Symptomatic Treatment of Bronchial Asthma and Hay Fever with β-Dimethylaminoethyl Benzhydryl Ether Hydrochloride. G. A. Koelsche, L. E. Prickman and H. M. Carryer.—p. 151.
Antihistaminic Substances, with Special Reference to Pyribenzamine. R. L. Mayer.—p. 153.
Penicillin Therapy in Chronic Bronchial Asthma. H. C. Leopold.—p. 166.
*Treatment of Asthma with Rectal Suppositories of Aminophylline and Sodium Pentobarbital. S. J. Prigal, A. M. Fuchs and P. M. Schulman.—p. 172.

Clinical Results with Benadryl.—Waldbott gave six doses of 50 mg. of benadryl. If the patient did not respond, the drug was not considered beneficial. If the treatment was helpful, a placebo was given whenever possible when the patient asked for a second supply of six capsules. There was a total of 165 cases. The action of benadryl was impressive, but it is not ideal because there are unpleasant secondary effects in a large number of patients. Benadryl is not a cure for allergic disease but is strictly of symptomatic value. The fact that advanced asthma responded much less to the medication than hives and hay fever indicates, perhaps, a more pronounced action of the drug on the allergic wheal than on the spasm of the bronchial musculature. Should this be true it would be an ideal supplement for aminophylline, which is known to be ineffective in urticaria and hay fever but useful in asthma. Some of the patients with asthma who did not improve had infectious asthma, as they were subsequently relieved by sulfonamides or penicillin.

Rectal Suppositories of Aminophylline and Sodium Pentobarbital in Asthma.—Prigal and his co-workers used aminophylline in combination with sodium pentobarbital in suppository form and believe that the combination is more effective than the aminophylline alone. They treated 47 ambulatory asthmatic patients with this combination. The adult suppository contained 0.5 Gm. of aminophylline and 0.1 Gm. of pentobarbital sodium; the children's suppositories contained 0.025 Gm. of aminophylline and 0.05 Gm. of pentobarbital sodium. Aminophylline suppositories gave relief to 38 of 47 patients during an attack of asthma. Aminophylline in combination with pentobarbital sodium was more effective, relieving 44 of 47 patients. When the asthma responded to the suppository it required about half the time with the combination as compared with plain aminophylline. The combination helped 44 of 47 patients in reducing the frequency and severity of attacks. Aminophylline alone was helpful to 25 of 45 patients. The suppositories were given twice daily. No untoward reactions were observed. Itching, burning or diarrhea was reported but was usually relieved by lubricating the suppositories with nupercainal ointment. The suppositories may be helpful to infants and children because of convenience of administration and rapid action. A patient with a severe attack must be given the aminophylline intravenously, but in mild or moderate asthma the suppositories of aminophylline and pentobarbital sodium are effective. Cardiac patients responded well, probably because of the beneficial effects of aminophylline on the coronaries and as a result of its diuretic action.

Journal of Clinical Endocrinology, Springfield, Ill.

6:339-414 (May) 1946

Insulin Inhibition by Serum of Insulin Resistant Patient. L. Felder. —p. 339.
Hormone Metabolites in Blood and Urine of Diabetic Pregnant Patients With and Without Toxemia. Betty L. Rubin, R. I. Dorfman and M. Miller.—p. 347.
*Recurrent Diabetes: Spontaneous Remissions and Exacerbations. B. Y. Glassberg.—p. 369.
Influence of Various Androgenic Steroids on Nitrogen Balance and Growth. L. Wilkins and W. Fleischmann.—p. 383.
Progesterone Therapy in Uterine Fibromyoma. A. L. Goodman.—p. 402.

Recurrent Diabetes.—Glassberg states that of the patients continuously observed over several years in the Jewish Hospital Clinic more than 5 per cent have shown irregular, inconstant, unpredictable and spontaneous remission and exacerbations of the diabetic state. He presents observations on these 10 patients, each of whom showed diabetic, intermediate and normal responses to the standard dextrose tolerance test at various times. Patients whose curves reverted to normal did not always continue to show the normal response. There appeared to be some relationship to body weight; in general, the more closely the weight approached the ideal, the greater the tendency for the appearance of a normal tolerance curve, but there were exceptions to this. This unpredictable variation may be a manifestation of the homeostatic mechanism of the body. The author stresses that in the interpretation placed on any "new" treatment of diabetes account must be taken of the factor of unpredictable variation. His observations cast doubt on the conclusion of some workers that patients have gained tolerance solely as a result of excessively high carbohydrate diets.

Journal National Malaria Society, Tallahassee, Fla.

5:1-94 (March) 1946

Malaria in Postwar Era. H. A. Johnson.—p. 1.
Notes on Morbidity of Naturally Occurring Malaria. R. B. Watson and Margaret E. Rice.—p. 7.
Appraisal of Malaria Endemic in Protected and Comparison Areas of Sardinia in Years 1925-1934. P. Putnam and L. W. Hackett.—p. 13.
Vertical Drainage for Mosquito Control on Solomon Island Base. R. B. Eads.—p. 39.
Precipitin Test for Determining Natural Insect Predators of Immature Mosquitoes. M. M. Brooke and H. O. Proske.—p. 45.
Observations on Character of Paroxysm in Vivax Malaria. S. F. Kitchen and P. Putnam.—p. 57.
Notes on Prolific Production and Dispersion of Anopheles Quadrimaculatus from Impounded Water Breeding Places. F. E. Gartrell and H. Orgain.—p. 79.
Relationship of Spinal Fluid to Plasma Concentrations of Quinacrine and Quinine. S. W. Lippincott, L. D. Ellerbrook, W. B. Hesselbrock and others.—p. 85.

Journal of Neurophysiology, Springfield, Ill.

9:139-260 (May) 1946

Dorsal Root Potentials of Spinal Cord. J. C. Eccles and J. L. Malcolm —p. 139.
Influence of Harmonic Content on Wave Forms of Human Electroencephalogram. R. Cohn.—p. 161.
Inhibitory Mechanism in Bulbar Reticular Formation. H. W. Magoun and R. Rhines.—p. 165.
Morphology and Conduction of Bipolar Dorsal Root Ganglion Cells of Selachian Fishes. B. Campbell.—p. 173.
Midbrain Mechanism for Faciovocal Activity. A. H. Kelly, L. E. Beaton and H. W. Magoun.—p. 181.
Central Effects of Centripetal Impulses in Axons of Spinal Ventral Roots. B. Renshaw.—p. 191.
Tonic and Reflex Functions of Medullary Sympathetic Cardiovascular Centers. R. S. Alexander.—p. 205.
Brain Stem Facilitation of Cortical Motor Response. R. Rhines and H. W. Magoun.—p. 219.
Properties of Maximal Seizures, and Their Alteration by Anticonvulsant Drugs and Other Agents. J. E. P. Toman, E. A. Swinyard and L. S. Goodman.—p. 231.
Transmission of Impulses in Peripheral Nerves Treated with Di-Isopropyl Fluorphosphate (DFP). F. Crescitelli, G. B. Koelle and A. Gilman —p. 241.
Effect of Di-Isopropyl Fluorphosphate (DFP) on Action Potential and Choline Esterase of Nerve. T. H. Bullock, H. Grundfest, D. Nachmansohn and others.—p. 253.

Journal of Neurosurgery, Springfield, Ill.

3:181-272 (May) 1946

Instructions for Using Cutaneous Resistance Recorder, or "Dermometer," on Peripheral Nerve Injuries, Sympathectomies and Paravertebral Blocks. C. P. Richter.—p. 181.
*Electrospinogram (ESG): Spinal Cord Action Potentials Recorded from Paraplegic Patient. J. L. Pool.—p. 192.
Cranioplasty with Acrylic Plates. C. W. Elkins and J. E. Cameron —p. 199.
*Concussion of Spinal Cord in Battle Casualties. G. S. Baker and F. Daniels Jr.—p. 206.
*Sensations of Electric Shock on Flexion of Neck as Sign of Head Injury. M. B. Bender and L. T. Furlow.—p. 212.
Ventricular Electroencephalography: Description of Technic. Margaret Lennox and T. C. Ruch.—p. 219.
Suture of Posterior Tibial Nerve Below Knee, with Follow-Up Study of Clinical Results. G. T. R. Fahlund.—p. 223.
Reversibility of Cerebral Ventricular Dilatation. H. A. Shenkin and C. R. Perryman.—p. 234.
Penetrating Craniocerebral Injuries: Evaluation of Late Results in Group of 200 Consecutive Penetrating Cranial War Wounds. G. L. Maltby.—p. 239.
Coarctation of Walls of Lateral Angles of Lateral Cerebral Ventricles. L. M. Davidoff.—p. 250.

Electrospinogram.—Pool recorded spinal cord action potentials from below the level of complete traumatic transection in a paraplegic patient without exposing the cord. A three-channel ink-writing amplifier was used, which is ordinarily employed for routine electroencephalography. Fine insulated unipolar and bipolar needle electrodes were used to obtain readings from the isolated segments of the transected cord. The test was carried out in the hope of securing information regarding the mechanism of the patient's distressing mass flexor spasms. As far as can be determined this is the first time an electrospinogram has been made in man. Attention is directed to the probability that subclinical as well as clinical mass discharges may occur within the spinal cord of paraplegic patients, which may represent "cord convulsions" or "spinal epilepsy." Electrospinogram tracings are presented which are believed to represent poststimulus "after-discharge" and action potentials coincident with isolated muscle twitch. It scarcely seems probable that the normal human spinal cord yields prolonged bursts of activity such as that observed in this paraplegic patient, for this burst has the earmarks of an abnormal discharge manifested by a crescendo rhythmic pattern strongly reminiscent of those recorded from the cerebral cortex during convulsive seizures.

Concussion of Spinal Cord in Battle Casualties.—Baker and Daniels point out that the term "concussion of the spinal cord" has been used in two senses. Hassin described as cases of concussion some in which trauma led to no immediate dysfunction of the spinal cord but was followed in a few days by symptoms and pathologic changes, sometimes simulating degenerative changes of amyotrophic lateral sclerosis. In the other

definition, concussion of the spinal cord is considered to be "that which happens after a single violent impact to the vertebral column, when the function of the spinal cord is affected though no gross anatomical changes can be found." The authors adhere to the second definition. They presume that "concussion" is a similar phenomenon throughout the nervous system and that comparison of concussion of the spinal cord to cerebral concussion is justified. In 85 cases of injuries of the spinal cord assessed by the authors, a diagnosis of true concussion of the spinal cord appeared justified in only 8 cases. These are similar to those described in the literature of World War I. Recovery of both motor power and sensation generally begins in the lower extremities and ascends, the duration of dysfunction being greatest in the level of injury. The exact nature of the mechanism of concussion remains obscure.

Electric Shock Sensations in Head Injury.—Among patients with head injuries studied at the U. S. Naval Hospital, San Diego, Calif., Bender and Furlow found 17 who manifested a well known sign of spinal cord disease. The patients complained of sensations of electric shock or pallesthesia in the extremities. These sensations were symmetrical, radiated along well known anatomic dermatomes and could be elicited on flexion of the head. They appeared during the posttraumatic period (several weeks after the injury), changed from one set of dermatomes to another and lasted for a short time (weeks to months). It is believed that the syndrome is caused by a simultaneous contrecoup injury to the spinal cord. The occurrence of such a syndrome after a head trauma should be considered as a significant sign of injury to the nervous system and should remove doubts as to the organic nature of the disorder.

Nebraska State Medical Journal, Lincoln

31:173-216 (May) 1946

Functional Recovery of War Wounds of Extremities. J. E. Milgram.—p. 176.
Medical History of Pacific Veteran. H. H. Zinneman.—p. 180.
Tropical Disease in Discharged Military Personnel: I. Malaria. R. J. Wyrens.—p. 184.
Hyperthyroidism—Accuracy of Diagnosis Mandatory in Treatment with Thiouracil. A. M. Greene.—p. 186.
Atrophic Arthritis—Etiology and Treatment. J. D. McCarthy.—p. 189.
Metabolic Arthritides. E. L. MacQuiddy.—p. 192.
Diseases Simulating Arthritis. A. D. Cloyd.—p. 194.
Osteoarthritis. E. Walsh.—p. 196.
Surgery of Arthritides. J. D. Bisgard.—p. 198.

31:217-260 (June) 1946

Presidential Address. C. McMartin.—p. 220.
Facing the Future in Medicine. E. V. Cowdry.—p. 223.
Brucellosis. G. Loveland.—p. 229.
The Cross-Eyed Child. W. H. Morrison.—p. 233.
Tuberculomata of Liver, with Case Report. R. A. Moser.—p. 236.

New England Journal of Medicine, Boston

234:545-572 (April 25) 1946

Problem of Nutrition in Postoperative Care of Abdominal Wounds of Warfare. J. E. Dunphy, S. O. Hoerr, C. L. Dimmler and R. R. White.—p. 545.
Coarctation of Aorta: Report of 2 Cases. R. Friedenberg and A. J. Sokol.—p. 552.
*Psychogenic Factors in Etiology of Diabetes. B. R. Gendel and J. E. Benjamin.—p. 556.
Urology: Carcinoma of Prostate. F. H. Colby.—p. 560.
Carcinoma of Stomach with Metastasis to One Lymph Node.—p. 564.
Cirrhosis of Liver, Alcoholic Type: Hemorrhages in Lungs.—p. 566.

Psychogenic Factors in Diabetes.—Gendel and Benjamin studied the psychogenic factors preceding the onset of diabetes mellitus in 44 patients who were admitted to an army general hospital. Two possible mechanisms suggest themselves by which psychogenic influences become capable of initiating diabetes. One of these is a functional neuroendocrine disturbance that gradually results in the development of diabetes. The other mechanism is analogous to a trigger mechanism whereby the psychogenic factors initiate the diabetes. In no case was it possible to prove a direct causal relation between the stress incident to military service and the subsequent development of permanent diabetes.

New York State Journal of Medicine, New York

46:1057-1168 (May 15) 1946

Management of Acute Congestive Heart Failure. H. Gross and A. Jezer.—p. 1107.
Biliary Disease in Elderly and Chronically Ill Patient. E. M. Aronstam.—p. 1117.
Linear Fracture of Skull Across Venous Sinuses. A. D. Ecker.—p. 1120.
New Hemoglobinometer: No-Blood-Drop Method, Using Principle of Transillumination. W. L. Gold.—p. 1122.
Benzyl Benzoate Treatment of Scabies in Staging Area. S. L. Hanfling and A. A. Goldbloom.—p. 1125.
Postural Headache and Attacks of Loss of Tone in Case of Calcified Suprasellar Tumor. A. Gallinek.—p. 1127.
Internal Hernia Strangulated by Meckel's Diverticulum. W. W. Mott.—p. 1130.
Pneumonia of Ornithotic Origin: Report of 2 Cases Occurring in Same Family Following Contact with Pigeons. L. Cohen, I. Gray and S. London.—p. 1132.

Puerto Rico J. Pub. Health & Trop. Med., San Juan

21:227-324 (March) 1946

Inter-American Training in Public Health. C. E. Shepard.—p. 229.
Growth and Reproduction in Rat on Diets of Rice and Beans. Marianne Goettsch.—p. 239.
*Nutritional Values of Mixtures of Polished Rice, Red Kidney Beans, Chickpeas and Soybeans. J. H. Axtmayer.—p. 274.
Throat Culture Survey of Troops Stationed in Puerto Rico. A. Pomales Lebrón, G. J. Dammin, C. Pons and P. Morales Otero.—p. 287.
Hematemesis Nine Years After Splenectomy: Case Report. F. Hernández Morales.—p. 306.

Nutritional Values of Rice, Red Beans, Chickpeas and Soybeans.—Axtmayer describes growth experiments of comparable groups of rats fed on mixtures of polished rice, red kidney beans, chickpeas and soybeans. Rats fed a polished rice and red kidney beans ration showed a poorer growth response and consumed much less food than rats receiving a diet of polished rice and chickpeas or a polished rice and soybeans ration. The growth and food consumption of rats on the polished rice and chickpeas ration was comparable to that of the group of animals fed on the polished rice and soybeans ration. Skimmed milk powder supplemented the proteins of a polished rice and red kidney beans ration and promoted greater growth and better food consumption than that obtained without the milk. Improved growth and food consumption resulted when either chickpeas or soybeans replaced part of the red kidney beans in a polished rice and red kidney beans ration. Milk casein is an adequate supplement to polished rice proteins.

Texas State Journal of Medicine, Fort Worth

42:1-62 (May) 1946

Transthoracic Resection of Cardia and Esophagus. O. T. Clagett.—p. 7.
Use of Pentothal Sodium in Thyroid Surgery. W. E. Crump.—p. 11.
Central Bone Tumors. B. L. Schoolfield.—p. 15.
Management of Nonspecific Urinary Tract Infections. C. A. Hooks.—p. 20.
Use and Abuse of Sulfonamides in Dermatologic Conditions. C. F. Lehmann.—p. 23.
Sulfonamide Therapy of Vincent's Angina. J. Wolfram.—p. 26.
Obstetrics in Postwar Years. A. T. Stewart.—p. 28.
Gastrointestinal Lymphosarcoma: Diagnostic and Therapeutic Problems. R. D. Moreton.—p. 31.
Albers-Schönberg Disease Affecting Soldier: Report of Case. W. W. Lindahl, S. M. Mokrohisky and M. C. Ritota.—p. 37.
Taylor Combination Oxygen Tents for Administration of Oxygen to Infants, Children and Adults. T. A. Taylor.—p. 40.

Virginia Medical Monthly, Richmond

73:203-249 (May) 1946

What the Farmer Expects from Medicine. J. S. Jones.—p. 203.
New and Simple Procedure for Developing Esophageal Voice in Laryngectomized Patient. E. T. Gatewood.—p. 206.
Traumatic Loose Bodies from Patella. G. A. Duncan.—p. 210.
Diverticula of Jejunum, with Report of 2 Cases. C. Williams and J. B. Walker.—p. 212.
Rocky Mountain Spotted Fever. T. S. Meade.—p. 216.
Acute Osteomyelitis of Superior Maxilla in Infants. F. H. McGovern and S. Newman.—p. 219.
Clinical Significance of Hemangiomata of Leg. B. W. Haynes Jr.—p. 221.
Study to Determine Antibacterial Efficiency of Combined Tyrothricin and Sulfadiazine. R. Kelso and B. Thompson.—p. 224.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Australian J. Exper. Biol. and M. Science, Adelaide

24:1-78 (March) 1946. **Partial Index**

Hemagglutinins of Vaccinia and Ectromelia Viruses. F. M. Burnet and J. D. Stone.—p. 1.
*Mumps: I. Isolation and Cultivation of Virus in Chick Embryo. W. I. B. Beveridge, Patricia E. Lind and S. G. Anderson.—p. 15.
Thermal Inactivation of Tomato Spotted Wilt Virus: Part 1. R. J. Best. —p. 21.
Plate Test for Coagulase Production by Staphylococci. E. F. Woods and Barbara J. Parkin.—p. 33.
Utilization of Molecular Hydrogen by Bacteria. J. Lascelles and J. L. Still.—p. 37.
Antibacterial Substances Produced by Flowering Plants: I. Preliminary Survey. Nancy Atkinson and K. Mary Rainsford.—p. 49.
Estimation of Adrenalin. F. H. Shaw with technical assistance of A. Forshaw.—p. 53.
Antibiotics from Victorian Basidiomycetes. J. Mathieson.—p. 57.
Detoxication of Cl. Welchi Type D Toxin by Formaldehyde. A. W. Rodwell.—p. 63.
Criteria of Pathogenicity in Staphylococci. R. Christie, E. A. North and Barbara J. Parkin.—p. 73.

Cultivation of Virus of Mumps in Chick Embryo.—Beveridge and his associates point out that mumps virus was first cultivated in the chick embryo by Habel, who used infected monkey parotid glands as the source. Beveridge and his co-workers succeeded in cultivating the virus from patients. They collected specimens within forty-eight hours of the onset of parotitis or later. Absorbent cotton swabs were placed inside the cheeks over the orifice of the parotid ducts for about an hour. After removal of these swabs the patient expectorated into a test tube until about 3 cc. of saliva was produced. Three strains of mumps virus have been isolated in chick embryos from human saliva and passaged fifteen to thirty times. The virus multiplies readily after yolk sac or amniotic inoculation and somewhat less readily after allantoic inoculation.

Brain, London

68:243-352 (Dec.) 1945

Intraneural Topography of Radial, Median and Ulnar Nerves. S. Sunderland.—p. 243.
Role of Galvanism in Treatment of Denervated Voluntary Muscle in Man. Shirley Jackson.—p. 300.
Interrelation of Striopallidum and Thalamus in Macaque Monkey. P. Glees.—p. 331.
Note on Lateral Geniculate Body. W. E. Le Gros Clark.—p. 347.

British Journal of Industrial Medicine, London

3:1-54 (Jan.) 1946

Health of Forestry Workers: Survey of Women's Timber Corps of Great Britain. Catherine N. Swanston.—p. 1.
Medical Grading of Industrial Worker. J. P. Elias.—p. 11.
Measurements of Radioactivity in Industrial Dial Painting Room. C. J. Braudo and J. D. Craggs.—p. 15.
Clinical Effects of Tetryl (CE Powder). H. B. Troup.—p. 20.
Monocytosis as Index of TNT Absorption. A. M. Hamilton.—p. 24.
Medical Science and Physical Education in Industry. F. A. E. Crew and others.—p. 27.

British Medical Journal, London

1:751-786 (May 18) 1946

*Results of Transfusion of Blood to Recipients with "Cold" Agglutinins. K. E. Boorman, B. E. Dodd, J. F. Loutit and P. L. Mollison.—p. 751.
Migrainous, Ciliary and Posttraumatic Dural Headaches. W. Harris. —p. 754.
Catheter and Prostate. W. H. Hey.—p. 757.
Fatigue Syndromes in West Africa. S. F. Lindsay.—p. 758.
Identical Deformities in Nasal Septum of Pair of Identical Twins. T. O. Howie.—p. 760.
Examination of Lower Uterine Segment in Cases of Suspected Placenta Previa. A. W. Spain.—p. 761.

Transfusion of Blood to Recipients with "Cold" Agglutinins.—Boorman and his associates point out that atypical cold agglutinins inactive at 37 C. (98.6 F.) do not cause destruction of transfused erythrocytes but that such agglutinins may undergo an immune response following the transfusion of blood containing the homologous agglutinogens and become active at 37 C.; they then may cause blood destruction. Six persons whose serums contained cold agglutinins were given blood transfusions. In the first 3 cases, in which the atypical antibody present was a natural agglutinin active only below body temperature and in which the anemia was due to hemorrhage, there was no clinical reaction even though the blood was transfused at refrigerator temperature; moreover, the transfused blood survived normally. In the last 3 cases, in which the atypical antibody was an immune antibody active at 37 C. and the anemia was of the acquired hemolytic type, incompatibility and rapid destruction of the transfused blood were demonstrated. Cases of acquired hemolytic anemia and other cases in which immunization either by pregnancy or by repeated transfusions has occurred need special consideration when transfusion is being done. This applies not only to the Rh group of antigens but also to the subgroups of the A antigen. Acute hemolysis of A_1 donor blood occurred in recipients of subgroups A_2 or A_2B, whose serums contained anti-A_1 agglutinins active at 37 C. This provides further and more conclusive evidence of a qualitative antigenic difference between the bloods of subgroups A_1 and A_2.

Journal of Royal Army Medical Corps, London

86:139-188 (April) 1946. **Partial Index**

Resuscitation Under Spinal Anesthesia Without Drugs. J. Markowitz. —p. 147.
Experiences with Cholera in Jungle Camp in Thailand. J. Markowitz. —p. 150.
*Series of Over 100 Amputations of Thigh for Tropical Ulcer. J. Markowitz.—p. 159.
*Nature of Starvation Amblyopia. A. R. Hazelton.—p. 171.

Amputations of Thigh for Tropical Ulcer.—Markowitz says that the frequency of tropical ulcer among British prisoners of war held by the Japanese in Thailand was appalling. The severity of the lesion was often much greater than that usually portrayed, being in many cases an acute phagedenic process, at its worst resembling rapidly spreading infectious gangrene. The author presents observations on 100 patients on whom amputation was done. The decision to remove the limb was a desperate attempt to save a dying man and, in many instances, was made too late. Early reluctance to amputate was due to the fear that with the primitive conditions the mortality would be alarming and that more lives would be saved by expectant treatment. However, by the application of simple listerian principles the mortality from the operation per se was negligible. Thirty-two patients have died out of 100 operated on. As judged by clinical evidence, only 1 died from surgical causes. The other patients who died all stood their operations well with practically no operative shock. The majority of deaths could be attributed to malnutrition, which showed itself in weakness and refusal to eat, with possibly terminal bronchopneumonia. Such patients had symptoms of avitaminosis. A significant proportion of the remainder died of amebic dysentery.

Starvation Amblyopia.—Hazelton presents the results of a survey of patients complaining of dimness of vision among prisoners of war held by the Japanese in Thailand. The total number of patients examined was 277. The etiology seems to be bound up with a combination of vitamin deficiencies. The disease resolves itself into two parts: 1. Easy exhaustion of the ciliary muscle, which is cured by the administration of thiamine, at least 1,000 international units intramuscularly per day for fourteen days. There were also the symptoms of eyestrain, i. e. pain in the eyeballs, frontal headaches, excess lacrimation, heaviness of the lids and tired feeling of the eye, which increased after close work on reading and were alleviated by administration of thiamine. 2. A condition of degeneration of the cones of the retina, which is probably brought about by the lack of sufficient photosensitive substance for these receptors. The former is shown by (*a*) lowering of the visual acuity, (*b*) inability to differentiate objects close together and (*c*) interference with color vision. The latter is postulated from the fact that the color of print changes on reading from black to green to yellow. Two facts emerge from this: 1. There is a relation between eyestrain and vitamin B_1 deficiency. 2. Persons with avitophthalmia are liable to sustain further damage to their cones in bright light and so should not work in the sunlight and should wear dark spectacles. As the retina is of central nervous system origin, any degeneration of the organ is probably permanent, so the prognosis for these cases is bad. The results of

treating cases of nutritional amblyopia of short duration with ten eggs per day for thirty days were gratifying; all persons undergoing this treatment showed improvement, and 1 patient was cured.

Lancet, London

1:677-720 (May 11) 1946

*Leukemia Treated with Urethane Compared with Deep X-Ray Therapy. Edith Paterson, Inez Ap Thomas, A. Haddow and Jean M. Watkinson. —p. 677.
Rapid Chemical Disinfection of Clean Unwashed Skin. A. D. Gardner and H. J. Seddon.—p. 683.
Blood Transfusion in Indian Famine. W. S. Charlton.—p. 686.
Serum Phosphatase in Lathyrism. M. N. Rudra and K. P. Bhattacharya. —p. 688.
*Rapid Death Following Injection of Antitetanic Serum. E. Gardner. —p. 689.

Ethyl Carbamate in Treatment of Leukemia.—Paterson and her associates report on the effect of ethyl carbamate in 19 cases of myeloid leukemia and 13 of lymphatic leukemia observed for from five weeks to eleven months. In the most favorable cases the leukocyte count decreased to normal levels, the differential count approached a more normal pattern, the enlarged spleen and lymph nodes decreased in size and there was a rise in the hemoglobin content. These effects were remarkably similar to those obtained with x-ray therapy. There is no indication that permanent benefit may result from the use of ethyl carbamate in either myeloid or lymphatic leukemia. The cases are too recent to judge the effect of treatment on length of life. The palliative effect is in many cases very great. Ethyl carbamate has also been administered in 13 cases of advanced carcinoma of the breast and in 11 cases of other types of malignant disease. A moderate leukopenia was observed in 9 of these. In 3 of the breast cases and 4 of the miscellaneous group there was a temporary diminution in the size of the lesions.

Rapid Death Following Injection of Antitetanic Serum.—Gardner reports the case of a boy aged 15 who had crushed the last joint of his left index finger in a plow. The physician ordered injection of 3,000 units of antitetanic serum at once, before his arrival. This was injected into the pectoral muscle below the right clavicle. A small quantity was injected at first; and then, as there appeared to be no reaction, the rest of the dose was given without removing the needle. Almost immediately the boy complained of feeling ill. He had increasing respiratory difficulty, with cyanosis, and this deepened till his death, which took place an hour after the onset of symptoms. It is suspected that the needle had entered a vein, into which the injection was made.

Practitioner, London

156:325-404 (May) 1946

Common Difficulties in Diagnosis and Treatment of Cutaneous Diseases. R. M. B. MacKenna.—p. 325.
Dermatoses of Menopause. H. W. Barber.—p. 333.
Urticaria and Its Treatment. B. C. Tate.—p. 347.
Treatment of Seborrheic Dermatitis. R. M. Bolam.—p. 353.
Ointment Bases. W. N. Goldsmith.—p. 358.
Radioactive Substances in Treatment of Diseases of Skin. A. Burrows. —p. 364.
Convalescence After Head Injuries: Advice for Patient's Relations. W. R. Russell and M. J. McArdle.—p. 370.
Protein Hydrolysate Therapy. A. B. Anderson.—p. 376.
The Hypopietic Patient. S. W. Smith.—p. 381.
Ménière's Disease. A. Nelson-Jones.—p. 384.

South African Medical Journal, Cape Town

20:165-200 (April 13) 1946. **Partial Index**

Treatment of Pulmonary Embolism with Intravenous Injection of Isotonic Solution of Sodium Chloride. C. F. v. d. Merwe.—p. 166.
*Primary Myopathy Characterized by "Micropygia" in the First Generation and Scapulohumeral Dystrophy in Second One of Consanguineous Parents. S. Matus.—p. 170.
Some Aspects of Current Housing Problems. H. Perry.—p. 172.
Need for Establishment of Division of Criminal Science in Department of Justice of Union Government. L. F. Freed.—p. 175.
Granulosa Cell Tumor: Review of Literature and Theory as to Its Pathogenesis. J. T. Louw.—p. 177.

Primary Myopathy in Two Generations.—Matus reports the occurrence of familial primary myopathy in a man aged 46 and in his 2 sons aged 5 and 6 years respectively. The two children presented a muscular atrophy of the pure scapulohumeral type. The supraspinous and infraspinous fossae were nearly devoid of any muscle, and the spine of the scapula was forming a visible ridge under the skin. The deltoids and the pectorals were involved. The manifest atrophy of the serratus contributed to the "winged scapulae" and gave to the children a peculiar attitude conspicuous by the "dropped shoulders" and the protruding abdomen. A scoliotic spine completed the clinical picture. The father of the 2 boys presented an unusually small buttock with a pronounced atrophy of the gluteal muscles for which the term "micropygia" was coined by the author. The smallness of the buttock was accentuated by the adiposity above (pseudohypertrophy of the upper part of the gluteal muscles). The collateral history of the man revealed that his cousin, the daughter of the middle-aged brother of his father, had the same "micropygia." The familial origin of this muscular dystrophy was further evidenced by the fact that his wife is his cousin, the daughter of the youngest brother of his father, while he is the son of the oldest brother.

Presse Médicale, Paris

54:249-268 (April 20) 1946

*Rh Factor and Erythroblastosis Fetalis. J. F. Hoet, P. de Somer and J. Vandenbroucke.—p. 249.
Frequency of Acute Tuberculous Articular Rheumatism. P. Delore. —p. 250.
Neurophylactic Action of Human Milk. J. Lévesque and R. Bastin. —p. 251.
Intravenous Anesthesia and Neuropsychiatric Exploration. R. Targowla, J. Sterne, Miss A. Feder and G. Lobel.—p. 253.
Primary Clinical Course of Tuberculous Meningitis with Papillary Stasis. S. Daum, M. Feld and R. Houdart.—p. 254.
"Allergic Reaction" to Human Serum in Tuberculous Guinea Pigs: Its Value for Diagnosis and Prognosis. R. Pirot, P. Barge and M. Bourgain.—p. 255.
German Research on Hypothermia Produced in Animals and Men. M. Rosenstiel.—p. 257.

Rh Factor and Erythroblastosis Fetalis.—Hoet and his associates studied 60 families in which there were erythroblastic babies. In 53 families the father was Rh positive, the mother was Rh negative and the baby was Rh positive. In 2 families the mother was Rh negative and developed anti-Rh agglutinins in her plasma; the blood of the father was not tested. In 5 families the results were different: in 3 both parents were Rh negative; in the remaining 2 families both parents were Rh positive, but in one of the mothers anti-Rh_2 agglutinins were demonstrated six months after delivery of a baby who died of icterus gravis neonatorum. A study of the anti-Rh agglutinins of 30 mothers was made during their pregnancy or in the course of the first few months after the delivery of an erythroblastic baby. Anti-Rh agglutinins were demonstrated in 27 mothers. In an additional 20 mothers whose babies presented definite symptoms of erythroblastosis, anti-Rh agglutinins were not demonstrated six or seven months after the delivery. The existence of atypical cold agglutinins as well as that of Rh subgroups was confirmed. Isoimmunization of the mother is to be considered responsible for the erythroblastosis fetalis. Anti-Rh agglutinins were demonstrated in the mother in 8 cases of icterus gravis in first-born babies. Rh negative blood transfusion was administered to 12 erythroblastic babies and was effective in 9. One or two transfusions (± 60 cc.) proved sufficient in all cases except 1, in which three transfusions were required.

54:281-292 (May 4) 1946

Clinical and Biochemical Significance of Glycoproteins in Blood Serum. M. F. Jayle.—p. 281.
*Nocturnal Chirobrachialgia Paresthetica. Scalenus Syndrome: Study of 70 Personal Observations. R. Froment and Wegelin.—p. 282.

Chirobrachialgia Paresthetica.—Froment and Wegelin report 70 cases of nocturnal chirobrachialgia paresthetica in 62 female and 8 male patients between the ages of 7 and 74 years, among them 59 between the ages of 30 and 60 years. One third of the patients were definitely neuropathic. The syndrome occurred in the upper extremities of the patients during the night and consisted of paresthesia of the fingers and of the hand, associated with pains of the sympathetic type in two thirds of the patients. Seventeen patients presented mild edema of the upper extremities. The disorder was elicited by the immobilization of the extremities and disappeared after energetic

mobilization of the extremity involved. Many cases showed a spontaneous tendency to improvement, but there were also refractory cases. Satisfactory results were obtained in 18 cases from treatment with sedatives, barbituric acid derivatives, antispasmodics and occasionally sympathicolytics or vasoconstrictors. This method of treatment was ineffective in 14 cases. Stellate ganglion infiltration was practiced in 8 cases, with satisfactory results in 2. The concept of sympathetic hyperexcitability supported by subclavicular venous stasis rather than that of a pathologic condition of the scalenus muscles is suggested for this condition.

Schweizerische medizinische Wochenschrift, Basel

76:213-236 (March 16) 1946. **Partial Index**

*Swelling of Mammary Glands in the Newborn. W. R. Merz.—p. 213.
Treatment of Bang's Disease. E. Jéquier-Doge and A. Reymond. —p. 217.
Clinical Experiences with Intrauterine Application of Sulfonamide. J. L. Hansen.—p. 226.
Further Attempts at Surgical Treatment of Bronchial Asthma. K. Lange. —p. 228.

Swelling of Mammary Glands of the Newborn.—Merz directs attention to the manifestations of so-called genital crisis in the newborn. These manifestations include (1) genital hemorrhages, which, in a microscopic form, occur in 25 per cent of newborn girls and in macroscopic form in 1 per cent, (2) alteration in the vaginal reaction, which becomes manifest in the appearance of Döderlein bacilli between the fourth and twelfth days after birth, (3) swelling of the testes in about 10 per cent of newborn boys and occasionally swelling of the prostate and (4) swelling of the mammary glands with or without milk secretion in both sexes. Observations on 2,600 newborn infants and their mothers revealed that 62.5 per cent of all newborn have noticeable swelling of the mammary glands. Girls are more often involved than boys, particularly as regards the more extensive swellings. The large swellings may reach their maximum gradually or may develop quite suddenly in from twenty-four to forty-eight hours on the seventh or eighth day after birth. The appearance of a swelling in the first days after birth represents a criterion for the physiologic maturity. With increasing size of the swelling, the weight of the child increases. There was no indication that the age of the mother influences the incidence of mammary swelling in infants. The percentage of swellings is greater in children of primiparas; in children of secundiparas the swelling is more often extensive, but with increasing parity the extent of the swelling decreases again.

An. Cáted. de Pat. y Clín. Tuberc., Buenos Aires

7:1-202 (June) 1945. **Partial Index**

*Cardiopneumatic Movements Registered for Each Lung Separately. A. E. Bence, R. González Segura and A. Lanari.—p. 5.
Experimental Tuberculosis Superinfection. A. R. Arena J. B. Gómez and A. I. Brisco Capurro.—p. 42.
Systematization of Treatment of Tuberculous Pulmonary Cavity. R. F. Vaccarezza and O. A. Vaccarezza.—p. 70.
Action of Insulin and Epinephrine on Eosinophils of Blood. S. Erdstein, J. G. Aguero and A. Patalano.—p. 113.
Extrapleural Pneumothorax: Development of Cases Reported in 1941. R. F. Vaccarezza, O. A. Vaccarezza and J. C. Rey.—p. 125.
Solid Mediums for Culture of Tubercle Bacillus. A. R. Arena and A. Cetrángolo.—p. 136.
Treatment of Tuberculosis of External Lymph Nodes. O. A. Vaccarezza. —p. 157.
*Bronchopulmonary Allergy Produced by Gold Salts: Loeffler's Syndrome with Disseminated Foci and Micronodulary Picture. R. F. Vaccarezza and A. Pavlovsky.—p. 164.

Cardiopneumatic Movements.—Bence and his associates apply the term cardiopneumatic movements to the changes in the pressure of the air contained in the bronchopulmonary tree as the result of the cardiac activity. Synonyms are negative pulmonary pulse, respiratory pulse and cardiac interruption of respiratory movements. The authors investigated the cardiopneumatic movements on 15 dogs, 3 pigs and 42 human beings. Their tests were made intrabronchially by means of Gebauer's double catheter. In this manner, for the first time, the cardiopneumatic movements of each lung have been registered and analyzed separately. With this technic the inconveniences of possible deformations of the curves through interferences of oral or nasal arterial pulse and those inherent in the dead space due to the use of masks have been avoided. The cardiopneumatic movements are attributed to variations of intrathoracic pressure, which in turn are attributed chiefly to quantitative differences between the afflux and efflux of thoracic blood. Less importance is attached to the impact of the heart apex, the movements of the wall of the thorax and of the diaphragm, and even less to the cardiac and arterial impacts on the bronchi. The differences of the cardiopneumatic movements of the right and left lungs are believed due to the variations of pressure in each hemithorax in view of the different anatomic relations. The greater or smaller influx depends on the grade of the mediastinal development. The modifications produced in the records by postural changes and the different respiratory phases and amplitude have also been attributed to the variations of the intrathoracic pressure and the anatomic positions of the organs in each hemithorax.

Loeffler's Syndrome Resulting from Treatment with Gold Salts.—Vaccarezza and Pavlovsky report the results of injecting a man aged 28, who had a history of hypersensitiveness, with gold salts. Urticaria, dyspnea and cyanosis developed, and disseminated through both lungs were lesions first of the nodular and then of the micronodular type. All these symptoms are attributed to hypersensitivity to gold salts. The respiratory manifestations correspond to an allergic serous bronchioalveolitis which originated a syndrome of Loeffler with special characteristics.

Archivos Argentinos de Pediatría, Buenos Aires

17:67-146 (Feb.) 1946

*Osteochondritis, Osteomyelitis and Osteoperiostitis of Nonsyphilitic Origin in the Newborn and in Nurslings: Roentgenologic and Microscopic Study. P. Araya Chiappa.—p. 67.
Infectious Mononucleosis: Grave Suppurating Complications. J. M. Valdes and A. Chattás.—p. 104.

Nonsyphilitic Osteochondritis in the Newborn.—Araya Chiappa points out that the existence of nonsyphilitic osteochondritis, osteomyelitis and osteoperiostitis in the newborn and in young infants was denied or at least doubted until recently. The material reviewed comprises 66 cases in which the roentgenologic and in many cases also the microscopic pictures were like those produced by congenital syphilis, but this condition was ruled out on the basis of the anamnesis, and of clinical and serologic examination of the infants, their parents and even their grandparents. The author thinks that any septic, toxic or endocrine process which disturbs the delicate mechanism of the endochondral ossification and changes the physiologic balance between the cartilage proliferation zone, its calcification and the formation of the first bony trabeculae causes the x-ray and histologic osteochondritis which has been considered pathognomonic of congenital syphilis. In the present state of knowledge the roentgenologist or the pathologist cannot determine the etiology of osteochondritis, osteomyelitis and osteoperiostitis without having studied the antecedents, except if the pathologist finds Schaudinn's spirochetes in the histologic sections.

Medicina Española, Valencia

9:99-192 (Feb.) 1946. **Partial Index**

Complications in Patients Having Undergone Gastrectomy. F. Gallart Monés and A. Romero Calatayud.—p. 99.
*Experience with Fundic Hysterectomy of Beuttner. J. Bottela Llusiá and A. Sopeña Ibáñez.—p. 104.
Sternal Bone Marrow in Kahler's Disease. G. Forteza Bover.—p. 111.
Physiopathology and Symptomatology of Frontal Lobes. L. Barraquer. —p. 122.

Fundic Hysterectomy.—Botella and Sopeña do not regard surgical intervention as the ideal treatment of adnexitis. In certain cases surgical treatment remains advisable. The authors stress the value of fundic hysterectomy with the preservation of one ovary in the treatment of chronic adnexitis. This operation permits radical cure of the chronic infectious process and at the same time conservation of the cyclic menstrual function so important for the physiologic and psychologic well being of the patients. The risks involved in this operation are equal to or less than those of other interventions, but the results are incomparably better.

Revista "Fontilles," Alicante

4:283-370 (Jan.) 1946. **Partial Index**

*Gynecomastia in Leprosy. G. Jaqueti del Pozo.—p. 283.
Penicillin in Leprosy. J. Guillen Prats and R. Gomeź Lucas.—p. 305.

Gynecomastia in Leprosy.—Gynecomastia is frequent in leprosy. Jaqueti del Pozo encountered acute gynecomastia in 34 patients of 154 observed in a leprosarium. Gynecomastia developed between the ages of 21 and 30 in most of the patients two to ten years after appearance of leprosy. There was intermittent mastalgia in all patients but 5. The course of gynecomastia was of three types: (1) It progressed slowly without regression, (2) it progressed slowly with remissions and (3) it progressed slowly for some years and regressed very slowly for several years without new progression. The libido was lost for many years in all of the cases. The testicles were atrophic and soft. The morphologic type was feminoid in patients in whom the testicular changes occurred in early youth. Otherwise the patients were of the masculine morphologic type. There were no other endocrine disturbances. The amount of estrogens in the urine was normal. The author believes that gynecomastia in leprosy results from a disturbance of the balance of androgens and estrogens. Two patients of the acute type were given weekly intramuscular injections of 10 mg. testosterone propionate up to a total of fifteen injections. Pain was immediately controlled, and the size of the breasts returned to 80 per cent of their normal size by the end of the treatment.

Acta Medica Orientalia, Jerusalem

5:71-106 (March) 1946

Medical Research in Physical Education: Physiologic Limitations of Athletic Performances. E. Jokl.—p. 71.
*Use (for Cosmetic and Biologic Reasons) of Plasma-Thromboplastin Adhesion as Substitute for Sutures in Thyroid Surgery. F. Mandl, M. Finkelstein and N. Rabinovici.—p. 75.
Ascaris Pneumonia (Notes on Review on Ascaris Lumbricoides). S. J. Plaschkes.—p. 80.
Activation of Originally Negative Intracutaneous Leishmania-Vaccine Reaction. F. Sagher.—p. 82.
Intramuscular Pressure: Critical Review. A. de Vries and H. Milwidsky.—p. 86.

Plasma Thromboplastin as Substitute for Sutures in Thyroid Surgery.—Mandl and his associates point out that at the Hormone Research Laboratory of the Hebrew University, during studies on the hormones of the human placenta, Zondek and Finkelstein chanced on a strongly thromboplastic material which could be rendered thermostable and could therefore be sterilized. The thromboplastic activity could be preserved for weeks if the solution was kept in sealed ampules at room temperature. The authors replaced the skin suture after thyroidectomy by plasma-thromboplastin prepared from human placenta. So far 24 cases of thyroidectomy have been treated in this way. After customary thyroidectomy the musculature and platysma are sutured. Then plasma is instilled into the wound from a pipet or syringe. This is followed by thromboplastin, and the edges of the wound are then approximated by means of four small forceps. After about two minutes the edges remain in position. After twenty-four hours the head can be turned in all directions and the adhesion is extraordinarily firm. The healing of the wound, the solidity of the scar and particularly the cosmetic results were far superior to those obtained by the customary method of suturing.

Nordisk Medicin, Gothenburg

29:107-158 (Jan. 18) 1946. **Partial Index**

*Allergy to Fungi in Patients with Besnier's Prurigo. P.-H. Nexmand.—p. 107.
Secondary Pellagra After Myxedema. K. Iversen.—p. 114.

Norsk Magasin for Lægevidenskapen

*Etiology of Boeck's Sarcoid, Especially in Light of Positive Cutaneous Reaction, Kveim's Reaction. N. Danbolt.—p. 118.
Darier's Disease in Three Generations. A. S. Mathisen.—p. 122.
Fracture of Heel Bone: After-Examination of 32 Conservatively Treated Fractures. H. S. Nissen-Lie.—p. 125.

Hygiea

Pathogenesis of Parenchymatous Keratitis. Aarni Ajo.—p. 131.

Allergy to Fungi in Patients with Besnier's Prurigo.—Nexmand points to the possible significance of damp housing conditions and damp climate and consequent allergy to molds in the origin and continuation of Besnier's prurigo. Intracutaneous tests made by him with five different molds gave positive reaction in 21 out of 39 patients with the disease. Allergy to molds was established in 8 of 12 patients with a history of damp living quarters. He stresses the importance of detailed anamnesis followed by tests of the allergens to which the patient probably has been or still is exposed.

Etiology of Boeck's Sarcoid.—Kveim's specific cutaneous reaction, Danbolt asserts, supports the conception of Boeck's sarcoid as a distinct entity and is of great diagnostic importance even though not positive in all cases. The results of the reaction in 104 patients were followed at least six months after the test was performed. The reaction was positive in 34 of the 36 patients with clinically typical Boeck's sarcoid and negative in the 68 patients who according to careful clinical evaluation did not have the disease. Clinical differentiation between the cutaneous manifestations in lupus vulgaris and Boeck's sarcoid may be impossible, but in lupus vulgaris the tuberculin sensitivity is high, while patients with Boeck's sarcoid are either tuberculin negative or show slight sensitivity. Signs of tuberculous processes in lupus vulgaris often established elsewhere in the organism, especially in the lungs, are not demonstrable in Boeck's sarcoid, where there are often pulmonary changes characteristic of the disease. These observations testify against Boeck's sarcoid as a tuberculous disease. Pulmonary tuberculosis may develop in a patient with Boeck's sarcoid but may as well be a complication to the earlier disorder as a "transition" from an "atypical" to a "typical" tuberculosis. Certain roentgenologic diagnosis of an isolated pulmonary Boeck's sarcoid is often impossible except with the aid of a simultaneous Kveim reaction. An uncertain Kveim reaction is ascribed to the presence of unspecific components in the antigen. If the reaction is uncertain where the outcome of the test is of diagnostic importance, as in a tuberculin negative case, the test must be repeated.

29:261-316 (Feb. 8) 1946. **Partial Index**

Lundsteen's Sound in Treatment of Cardiospasm. E. Meulengracht.—p. 263.
Continuous Intramuscular Administration of Penicillin. A. R. Frisk.—p. 264.
Injections by Way of Bone Marrow. L. Walldén.—p. 265.

Hospitalstidende

Photoelectric Measurements of Absorption and Their Application in Clinical and Biologic Laboratory. P. Kruhøffer.—p. 267.
Stationary Untreated Paralytic Dementia. J. C. Smith.—p. 274.
Additional Case of Agranulocytosis Following Treatment with Sulfathiazole. C. Svenstrup.—p. 275.

Finska Läkaresällskapets Handlingar

Correlation Between Deep Thrombosis in Lower Extremity and Ulcer of Leg. H. Zilliacus.—p. 277.
*Clinical Observations Concerning P Pulmonale. J. Burstein.—p. 282.

Norsk Magasin for Lægevidenskapen

Experiences with Regard to BCG Vaccination in Norway During War Years. G. Hertzberg.—p. 289.

Hygiea

Complications in Traction Wire Treatment. E. Schildt.—p. 301.

Clinical Observations Concerning P Pulmonale.—Examination of about 2,350 electrocardiograms of patients from a Helsingfors clinic revealed P pulmonale (P2 potential at least 0.2 millivolt, P3 potential exceeding P1 by at least 0.5 millivolt and waves pointed in their general configuration) in 59 cases, comprising 28 cases of heart disease, 16 of diseases of the lungs and 15 of thyrotoxicosis, neurosis and other disorders. The electrocardiographic, clinical and x-ray data and eventual postmortem findings are tabulated. Burstein says that the principal factors leading to P pulmonale are (1) hypertrophy of the right auricle, (2) the position of the heart, (3) the electric leading capacity of the lungs and (4) vegetative influences. Attention is called to the fact that disturbances in the pulmonary circulation were established in more than 80 per cent of the cases; if P pulmonale is present, symptoms of pulmonary stasis, emphysema, bronchiectasis, tumors and the like should be looked for. When disturbances in the lesser circulation are not demonstrable, the possibility of a labile vegetative state must be considered.

Book Notices

Cosmetics and Dermatitis. By Louis Schwartz, M.D., Medical Director, U. S. Public Health Service, and Samuel M. Peck, M.D., Associate Attending Dermatologist, Mt. Sinai Hospital, New York. Fabrikoid. Price, $4. Pp. 189, with 20 illustrations. New York & London: Paul B. Hoeber, Inc., 1946.

Since cosmetics are now used by nearly all women and by an increasing number of men, it is well for the physician to have some knowledge of their constituents. This book systematically presents that information. The authors, of course, describe the harmful effects that sometimes follow the use of cosmetics, but it is to be noted with interest that the book contains a chapter also on the benefits that may result from their use. Such a chapter could not well have been written a generation ago. In fact, the book throughout minimizes the long-held opinion that cosmetics are frequent sources of trouble because dermatitis from this or that substance "has not been reported." Dermatitis from cosmetics occurs more often than this book would indicate, despite the lack of reports. Practically all types of cosmetics are discussed. There are some omissions, such as brilliantines and after-shave lotions, for instance; and mention is not made of the recently reported rare systemic reactions from such preparations as cold wave solutions. There is an excellent introductory chapter on the anatomy and physiology of the skin. The pertinent literature is reviewed and the bibliography is well selected. There are some useful lists of cosmetic ingredients, with notations as to which may be sensitizers or primary cutaneous irritants, and there is an interesting chapter devoted to a discussion of cosmetic advertising. The illustrations, though well selected, are miserably reproduced—a reflection on the publisher rather than on the authors. For the dermatologist or others interested in cosmetics this book should be a useful sourcebook.

Manual of Child Psychology. Edited by Leonard Carmichael, President, Tufts College, Boston. Contributors: John E. Anderson and others. Cloth. Price, $6. Pp. 1,068, with illustrations. New York: John Wiley & Sons, Inc.; London: Chapman & Hall, Ltd., 1946.

Even in such highly specialized fields as the psychology of the child, scientific advancement has been so rapid that it is hardly possible any longer for a single author to prepare a complete textbook. These facts no doubt moved the publisher to offer this symposium under the editorship of President Leonard Carmichael of Tufts College with a series of contributors representing many leaders in the field concerned. The individual chapters cover every aspect of the behavior of the child and also such highly specialized problems as those of the feebleminded, the gifted, problems of sex and similar subjects. The book is massive in concept and in treatment but, fortunately, a comprehensive index of seventy pages makes reference to many subjects exceedingly easy. The data have been carefully selected and are authoritative. Physicians who have a special interest in the subject concerned will find the book most helpful.

How Heredity Builds Our Lives: An Introduction to Human Genetics and Eugenics. By Robert Cook and Barbara S. Burks. Paper. Price 75 cents. Pp. 64, with drawings by Clyde E. Keeler, Head of Department of Biology, Wesleyan College, Macon, Georgia. Washington, D. C.: American Genetic Association. 1946

This pamphlet is designed to state the fundamentals of our knowledge of heredity in such form that they can be understood by the intelligent reader. Many of the questions as to the relative influence of heredity and environment on the growth of the human being are answered. The pamphlet was printed as a special issue of *Eugenical News* in January 1945.

Theorie der Muskelkontraktion. Von Fritz Verzár, o. Professor der Physiologie an der Universität Basel. Rektoratsprogramm der Universität Basel für die Jahre 1942 und 1943. Paper. Pp. 107, with 19 illustrations. Basel: Verlag Benno Schwabe & Co., 1943.

The first part of this monograph is devoted to a review of existing knowledge on the microstructure of muscle fibers. The relation of this feature to the muscle proteins and to the molecular changes which occur on contraction is considered in some detail. Discussion of this material is correlated with the development of the author's theory of muscular contraction. The role of potassium in muscular contraction is also reviewed. This is a field of investigation to which the author has made a personal contribution and his theory of muscular contraction emphasizes the importance of potassium in the contraction process.

Following a brief history of the various theories of muscular contraction the author presents his own views in some detail. He suggests that myosin, the contractile element of the muscle fiber and the chief component of the Q band form a complex with potassium and glycogen. This complex is thought to exist in the resting or relaxed state. On stimulation of the muscle fiber the potassium is set free, and simultaneously the myosin and glycogen become separated. The myosin contracts and part of the glycogen, after decomposition, is resynthesized with potassium into the myosin-potassium-glycogen complex.

Professor Verzár points out that this theory is incomplete and probably is an oversimplification of the processes which actually occur in contracting muscle. The role of calcium is unexplained and many of the chemical reactions known to occur in connection with the contraction of muscle, particularly those involving enzymes, have not been related to the known changes which occur in the muscle protein molecules. However, a correlation of data from several separate fields of scientific endeavor has been achieved and has yielded an interesting and valuable review on the subject of muscular contraction. The author's theory of muscular contraction should prove a stimulus to further thought and investigation on this challenging subject.

Dr. W. C. Röntgen. By Otto Glasser, Cleveland Clinic Foundation, Cleveland, Ohio. Cloth. Price, $4.50. Pp. 169, with illustrations. Springfield, Ill.: Charles C Thomas, 1945.

Otto Glasser has produced another interesting biography of Roentgen to celebrate the semicentennial of the discovery of the x-rays and the centennial of the discoverer's birth. This neat product of the author's art and printer's proficiency is really a collector's item. It carries fresh translations of Roentgen's three and only papers wherein he described his experiments with the unknown x-rays. Glasser's original and larger biography of Roentgen, published fifteen years ago, has become a classic. This new and briefer story clears up many controversies, jealousies and priorities which seem to embarrass but never dim the glory of many pure scientists and fundamental discoveries. There is a listing of Roentgen's scientific papers, a chronology of Roentgen's life and a valuable bibliography of the source material on Roentgen's life.

Motor Disorders in Nervous Diseases. By Ernest Herz, M.D., Instructor in Neurology, College of Physicians and Surgeons, Columbia University, and Tracy J. Putnam, M.D., Professor of Neurology and Neurological Surgery, College of Physicians and Surgeons, Columbia University, New York City. Cloth. Price, $3. Pp. 184, with 250 illustrations. New York: King's Crown Press, 1946.

The authors have prepared a compendium based on a collection of films used for teaching clinical neurology to medical students. The subjects presented are involuntary movements in nervous diseases, disorders of gait and coordination, muscle status, reflexes, skilled acts, oculomotor and trigeminal nerve disorders, facial palsy, disorders of the vestibular system and motor disorders of the ninth, tenth, eleventh and twelfth cranial nerves. The book is highly recommended to all teachers in neurology as well as to neurologists and neurologic surgeons. It will serve as a practical and quick reference work, eliminating the need to search for descriptions in the general textbooks of neurology.

General and Plastic Surgery with Emphasis on War Injuries. By J. Eastman Sheehan, M.D. Cloth. Price $6.75. Pp. 345, with 496 illustrations. New York & London: Paul B. Hoeber, Inc., 1945.

Devoted entirely to traumatic surgery of military nature, this ambitious little volume is valuable for its numerous illustrations. There is little that is new or different in form or content. The material is clearly presented in a brisk and concise fashion. The emphasis is on practical details, which certainly enhances its value. Unfortunately its purpose is nullified to some extent by cessation of military hostilities. Those who wish a brief outline of treatment of traumatic disorders remediable by plastic surgery may find this book quite useful.

Health and Welfare Services for Mothers and Children in Union of the Soviet Socialist Republics: From Original Russian Sources. By Anna Kalet Smith. Paper. Pp. 40. Washington, D. C.: United States Department of Labor, Children's Bureau, 1945.

This mimeographed release of forty pages is described as "not the observation of any member of the staff of the Children's Bureau" but is said to be gathered "only from published Russian sources and no effort has been made to evaluate the material." The report describes the branches of the government of the Soviet Union concerned with health and welfare services for mothers and children. Among these are the Supreme Council, the Council of the People's Commissars, and legislative and administrative branches in the territorial divisions of the Soviet Union. Public health authorities include the department of maternity care, child health services, advisory committees and councils of medical men and councils on curative and preventive treatment of children and on maternity care and the commissariats of public health in the provinces, territories, provincial districts and cities. There are descriptions of the general characteristics of the system and the health and welfare services for mothers and children, both in cities and in rural localities. Descriptions are given of child health centers in cities, children's clinics, medical and dental care for school children, feeding of school children, day nurseries, institutions for children and foster family care. Related work connected with services for mothers and children is also described, and there is an appendix giving the text of laws and regulations, names of officials and references. The foreword says that this material has been compiled by the Children's Bureau "in line with its interest in mothers and children of all nations." The philosophy set forth in this descriptive report is apparently not unlike the philosophy of the Children's Bureau, whose officials are definitely on record in favor of the broad extension of governmental services to mothers and children. All physicians should read this report, if only to refute the charge that they are not familiar with the Russian system which they oppose.

Tratamiento dietético del los gastrectomizados. Por el Doctor Norberto M. Stapler. Tesis de doctorado, Universidad nacional de Buenos Aires, Facultad de ciencias médicas, Escuela de medicina. Paper. Pp. 114, with 2 illustrations. Buenos Aires: Sebastián de Amorrortu e Hijos, 1942.

Dr. Stapler, one of the leading gastroenterologists of Buenos Aires, has made a particular study of the dietetic treatment of persons who have had the stomach removed surgically. Now that this operation is being done frequently, the problem of taking care of the patients afterward is coming to the fore. Dr. Stapler points out wisely that the jejunal mucosa is often highly sensitive to heat and cold, and therefore food should be given at about body temperature. Ice cold foods and drinks are likely to produce distress. The book is made up largely of dietaries.

Páginas de cirugía para el Profesor Enrique Finochietto en el 40° aniversario de su graduación. Paper. Pp. 262, with illustrations. Buenos Aires: La Prensa médica argentina, 1945.

This is a festschrift for Dr. Enrique Finochietto on the fortieth anniversary of his graduation. The papers were published in a single number of *La Prensa médica argentina*. Almost all the papers are of surgical interest. They are on such subjects as thoracic surgery, dermoid cysts behind the coccyx, occipital neuralgia, the use of living sutures derived from the fascia lata, thyroidectomy, surgery of the common duct, medical care after operations, lumbar ganglionectomy, the treatment of sialorrhea by cutting the auriculotemporal nerve, surgical treatment of cerebral hemorrhage and partial gastric resection.

Skin Diseases in Children. By George M. MacKee, M.D., Professor of Clinical Dermatology and Syphilology, New York Post-Graduate Medical School, Columbia University, New York, and Anthony C. Cipollaro, M.D., Associate in Dermatology and Syphilology, New York Post-Graduate Medical School, Columbia University. With contributed chapters. Second edition. Cloth. Price, $7.50. Pp. 448, with 226 illustrations. New York & London: Paul B. Hoeber, Inc., 1946.

This edition has been enlarged by some 100 pages and the material throughout has been brought down to date. There are new chapters on allergy, syphilis, the exanthems and cutaneous anomalies written by collaborators who are experts in their respective fields. Their material is excellently presented. The book covers well the common diseases of the skin. For the most part the style is didactic and the descriptions of the diseases are concise and clear. In general, the remedies and methods of treatment that are recommended are those in common use by dermatologists and such that can be carried out readily by the general practitioner. The illustrations are numerous and unusually well selected, the print is large and on excellent stock and the book is well indexed. Though emphasis is placed on diseases observed in children, there are descriptions of such entities as rosacea, erysipeloid, Schamberg's disease and other diseases usually associated with adults rather than children. On the whole, the book presents an excellent summary of the current trends of dermatologic opinion and practices and it should therefore be of distinct value to the practitioner in furnishing an orientation of the common diseases of the skin.

The British Pharmaceutical Codex 1934: Supplements I-VII. Published by Direction of the Council of the Pharmaceutical Society of Great Britain. Fabrikoid. Price, 21s. Various pagination. London: Pharmaceutical Press, 1946.

This volume contains supplements to the British Pharmaceutical Codex 1934, a review of which appeared in these columns some years ago. The text contains standard dressings, formulary, new monographs and their amendments, quinine preparations, various additions and amendments, including a cumulative index. The book is a worthy contribution to any scientific library, particularly one possessing the parent text, and is of value to those interested in medical literature.

Essentials of Chemistry. By Gretchen O. Luros, M.A., Instructor in Chemistry for Nurses, Wayne University, Detroit, Mich., and Florence Oram, M.A., R.N., Assistant Director, School of Nursing, Michael Reese Hospital, Chicago. Science Adviser: Jean Broadhurst, Ph.D. Fifth edition. Cloth. Price $3.25. Pp. 637, with illustrations. Philadelphia, London & Montreal: J. B. Lippincott Company, 1945.

The fifth edition of this well known textbook has incorporated the latest chemical facts and theories to everyday life and nursing procedure. The book contains a voluminous amount of vital material. However, the authors have successfully presented in simple form the essential facts of chemistry and should be commended. The volume is of high merit and distinct value to the elucidation of the necessary essentials.

Manson's Tropical Diseases: A Manual of the Diseases of Warm Climates. Edited by Philip H. Manson-Bahr, C.M.G., D.S.O., M.D., Senior Physician to the Hospital for Tropical Diseases, London. Twelfth edition. Cloth. Price, $12. Pp. 1,068, with 407 illustrations. Baltimore: William Wood & Company, 1945.

The appearance of a new edition of this well known standard textbook on tropical diseases will be welcomed in many parts of the world. The revision has taken into account the great recent advances which have occurred in knowledge of the causes, prevention and treatment of many tropical diseases. The illustrations, many of which are printed on excellent paper stock, add greatly to the value of this famous work.

Psychology of Infancy and Early Childhood. By Ada Hart Arlitt, Ph.D., Professor of Child Care and Training, University of Cincinnati, Cincinnati, Ohio. Third edition. Cloth. Price, $3.75. Pp. 475, with 17 illustrations. New York & London: McGraw-Hill Book Company, Inc., 1946.

The most recent edition of this book, which has been available since 1930, takes account of many new researches in the field of learning, imagination, memory and the relative effects of heredity and environment. Pediatricians particularly will gain much from this adequate presentation of the psychology of the child.

Hipertiroidismo: Fisiopatología y tratamiento. Por José Alberto Caeiro, profesor titular de patología quirúrgica de la Facultad de medicina de La Plata. Paper. Pp. 252, with 72 illustrations. Buenos Aires: Lopez & Etchegoyen S. R. L., 1945.

North American experts in the field of diseases of the thyroid gland would be interested in this well written, well illustrated book on thyroid diseases as they are seen in South America. Dr. Caeiro goes at length into the problems of pathologic histology and pathologic physiology of the gland. Then he discusses the surgical and postoperative problems.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

TRICHOMONAS VAGINITIS

To the Editor:—**A 22 year old woman has had trichomonas vaginitis for 4 years. Please discuss: (1) Treatment. (2) Precautions to be taken by the husband. (3) Incidence in men. (4) Mode of contraction. (5) Complications in women if untreated. (6) Relation to sterility. (7) Average duration of infection if well treated. (8) Control of associated pruritus ani. (9) Relationship between trichomonas vaginitis and dysmenorrhea if any.**

Sanford J. Randall, M.D., Washington, D. C.

ANSWER.—Numerous types of treatment have been recommended. The two principal factors in treatment are (1) the establishment of a normal vaginal bacterial flora and a healthy vaginal mucosa and (2) the prevention of reinfection during and after the vagina has been restored to its normal state.

The latter group includes urethral and bladder infection, cervicitis and excessive cervical secretions. Excessive secretions from an apparently normal looking cervix must not be overlooked. Whenever a patient fails to respond to the usual therapy or has recurrences (after extrinsic sources are excluded) urologic examination of the patient's urethra and bladder is indicated and appropriate therapy. Commonly there are few or no urinary symptoms. There has been no conclusive proof that the bowel is a focal site, but good anal hygiene should be recommended.

Active treatment to the vagina consists principally in the insertion of 5 to 15 Gm. of alpha or beta lactose in tablet or capsule preparation each evening on retiring. The medication is reduced as improvement occurs. For those who insist, douches should be used not oftener than once or twice a week at most. Plain water, saline (2 to 4 tablespoons of table salt to 1 quart) or alum douche (1 heaping teaspoon of powdered alum to 1 quart) will remove any excess lactose in the vagina and at the same time will disturb the normal bacterial flora less than many other types of irrigations.

The husband may be a carrier of this infection, but this is not the usual source of reinfection. Nevertheless, coitus should be avoided and, if abstinence is not followed, the husband should use a condom. Sexual rest is definitely advisable.

Cornell and Riba have reported the highest incidence in husbands, 25 per cent. Most other observers have found a much smaller percentage.

The mode of contraction varies. Since virgins have this disease, it would seem that spread might occur by way of the hands, contamination from the bowel, bathing water or other nonsexual contacts.

A few scattered but unconfirmed reports list complications as hepatic abscess and other lesions. Most workers in the United States subscribe to the idea that the process is limited to the lower genital tract (limited to the vulva, vagina, urethra and bladder and possibly the cervix). There are no verified reports of spread of trichomonads to other structures. Hesseltine demonstrated small submucosal abscesses in severe vaginal trichomoniasis. Lymphadenitis about the vagina may be expected. The abscesses and lymphadenitis are apparently due to associated abnormal bacteria.

Vaginal trichomoniasis is probably not a primary factor in sterility.

The average duration of treatment varies greatly and is influenced by several factors, which include the cooperation of the patient, the degree of relaxation of the introitus and the amount of damage at the time treatment is started. Ordinarily it is agreed that a diagnosis of cure is not justified until the patient has had two complete menstrual cycles without treatment and without recurrence. Active treatment of many patients must continue for two months or longer.

Anal pruritus is caused by many conditions, such as hemorrhoids, constipation, anal fissures or a chronic dermatitis due to poor hygiene. The cause must be determined and treatment directed to its cause.

There is no evidence to indicate that vaginal trichomoniasis and dysmenorrhea have any relationship.

ARCH SUPPORTS FOR FLATFOOT IN CHILDREN

To the Editor:—**A boy aged 3½ years has a second degree flatfoot, which is familial on the mother's side. Arch supports have been worn for two and one-half years with little discernible difference. The child complains of discomfort from the supports, although they have been changed because of his complaint. Please advise as to further treatment.**

M.D., New Jersey.

ANSWER.—If the child has a flatfoot it means that the heel is in valgus and there is pronation in the midtarsal area. There is also a tendency for the head of the first metatarsal bone to be displaced dorsally. The lowering of the arch is in all probability due to weakness of the structures. Any tendency that is inherited would involve structural weakness rather than a morphologic predisposition.

The object, therefore, would be to bring the heel into varus and the head of the first metatarsal bone into normal position. In this way the arch would be restored automatically.

To accomplish this it is necessary to have a pliable shoe in which the heel is raised on the inner side and a transverse bar applied with an inclined plane to bring the anterior part of the foot into normal position. Since the fifth metatarsal bone should rest on the floor, the bar should not extend under the fifth metatarsal. The fourth, third and second metatarsal bones are higher than the first and the fifth, and therefore the bar should be raised under these bones. It is best to do this with a graduated incline so that the bar will be comfortable while carrying out the correction of the anterior arch.

When the foot is brought into normal position it is also important that the child walk with normal gait. Since a child instinctively walks normally if there is nothing to interfere with its gait, special teaching would hardly be necessary, but this child has worn arch supports for two and one-half years. Following this interference with normal use it might be necessary to show the child how to walk normally, heel and toe gait. It is probably better not to have treatment at all, or simply to use a pliable shoe, than to have interference with normal function by means of arch supports in the shoes of a child of this age. For further reference see Hauser's Diseases of the Foot, published by the W. B. Saunders Company.

TREATMENT OF DIABETES INSIPIDUS

To the Editor:—**A boy aged 7 years has had diabetes insipidus for about two years. No definite etiologic factor has been found. The Wassermann test is negative, and x-rays of the bones and skull are normal. Two years before onset the patient was operated on for acute mastoiditis, followed by facial paresis. The ear discharges pus several times a year. The boy is underdeveloped with respect to height and weight for his age. For two years he responded satisfactorily to pitressin tannate in oil. At first he required 0.5 cc. twice a week and then 1 cc. twice a week. Now 1 cc. daily is insufficient to allay the severe thirst and diuresis. Two months ago the child developed a hepatitis with jaundice, which cleared uneventfully. What other therapy is available? He cannot take aqueous solution of pituitary because it causes extreme pallor and sweating and is of little benefit.**

Louis Pelner, M.D., Brooklyn.

ANSWER.—This report of a 7 year old boy with symptoms of diabetes insipidus is rather typical. All the known remedies in such cases have been used with the possible exception of insufflation of powdered pituitary substance into the nostrils, which might produce more relief. In this method a glass tube with bulb is used and dosage is adjusted to the patient.

The history of mastoiditis with facial paresis and recurrent discharge from the ear makes one think of the possibility of tuberculosis. This also is one of the possible causes of lesions of the pituitary body, which should be ruled out carefully in this case.

ABDOMINAL AND VAGINAL UTERINE SUSPENSIONS

To the Editor:—**Please discuss the advantages of vaginal over abdominal suspension of the uterus or vice versa.**

M.D., Texas.

ANSWER.—The request for references on the "advantages of vaginal over abdominal suspension of the uterus, or vice versa" presents a question of such broad scope that one should consult the *Quarterly Cumulative Index Medicus* for a comprehensive review of the many articles dealing with displacement and prolapse of the uterus. In general, the choice of operative approach and procedure depends on the age of the patient, the general physical condition of the patient, the desirability of preserving the childbearing function, the condition of the cervix and corpus uteri, the presence of coexisting pathologic conditions and the presence of and degree of cystocele, rectocele and enterocele. Therefore each case is an individual problem and must so be treated. Usually the abdominal approach is reserved for patients desiring future pregnancies or in whom coexisting disease requires a laparotomy.